

Public Apologies in India - Semantics, Sentiment and Emotion

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Abstract

This paper reports a pilot study related to public apologies in India, with reference to certain keywords found in them. The study is of importance as the choice of lexical items holds importance which goes beyond the surface meaning of the words. The analysis of the lexical items has been done using interlinked digital lexical resources which, in future, can lend this study to computational tasks related to opinion mining, sentiment analysis and document classification. The study attempts an in-depth psycholinguistic analysis of whether the apology conveys a sincerity of intent or is it a mere ritualistic exercise to control and repair damage.

Keywords: apology, sorry, regret, apologize, WordNet, SentiWordNet, WordNet-Affect, corporate apologies, corporate communication

1 Introduction

Public apologies, as a tool to repair damage and manage reputation, have been used by organizations and individuals frequently the world over. The dynamics of speech act of apologizing are very different from that of written apologies. Written apologies are not supported by the nonverbal elements of communication. The remorse on the face, the earnestness in the voice, the intent in the gestures are all absent in the written apologies. The words stand alone to convey the guilt, remorse, regret and forbearance. The tone and tenor of writing can thus play an important role in either leading the customers to take a forgiving stance to the organization or rejecting it as a ritualistic gimmick.

Communication researchers agree that the oral and written language differ significantly in their communication impact. While the speech act has been analyzed in detail, not much attention has been paid to the written word. Specifically, in the Indian context, there is very little research on public apologies. This paper aims at making a analysis about the semantics, sentiment and emotion of written apologies delivered digitally in India by using three inter-linked digital lexical resources, namely, WordNet¹, SentiWordNet² and WordNet-Affect³ respectively. The paper limits itself to the analyses of a set of selected keywords found in these apologies. To the best of our knowledge, this is the first such study. Our hypothesis is that the choice of lexical items plays an important role in conveying the intent of the writer in a public apology and the sentiments and emotions associated with an apology expression can go beyond the surface meaning of the word.

Roadmap

Section 2 deals with the related work. Section 3 discusses apologies in the digital media and such apologies in India. Section 4 outlines the methodology followed in the study. Section 5 is presents the analysis with reference to WordNet, SentiWordNet and WordNet-Affect. Section 6 contains the overall discussion. Section 7 discusses the future work.

2 Related Work

Linguistic analysis of social discourse, using digital lexical resources and related software, has been an upward trend in the recent past. WordNet has been used for marking the event profile of news articles as a function of verb type (Klavans, 1998). An Adversary-Intent-Target (AIT) model has been developed which is based

¹ <http://wordnet.princeton.edu/>

² <http://sentiwordnet.isti.cnr.it/>

³ <http://wndomains.fbk.eu/wnaffect.html>

on an Ontology for the Analysis of Terrorist Attacks (Turner et al, 2011). DICTION 5.0 text analysis master variable, CERTAINTY has been used to analyze top management language for signals of possible deception (Craig et al, 2013). A viable approach to sentiment analysis of newspaper headlines has been developed by using linguistic techniques and a broad-coverage lexicon (Chaumartin, 2007).

From the point of view of communication study, most of the research on public apologies is focused on apology as a speech act (e.g. Edmondson, 1981; Fraser, 1981; Holmes 1990; Blum-Kulka et al.1989; Olshtain and Cohen 1983; Owen, 1983; Trosborg, 1987). The studies are based on two perspectives. The first is from the point of view of the offended party (Lee & Chung, 2012) and the second sees apology from the point of view of the offender (Darby & Schlenker, 1989; Goffman, 1971; Hearit, 1994, 1996, 1997, 2010; Schlenker & Darby, 1981).

Although an emphasis has been laid on the different nature and aspects of written and spoken discourse (Halliday (1989, 2007, Tillmann, 1997, Aijmer and Stenström, 2004, Wikberg, 2004, Nelson, Balass and Perfetti 2005, Biber, 2006, Miller, 2006, McCarthy and Slade, 2007 and Wichmann, 2007, Chafe, 1992), not much attention has been paid to the written word. Moreover, research on the written apology delivered via the digital medium needs further analysis.

3 Apologies in the Digital Media

The practice of tendering an apology as a means of acknowledging and compensating for failure is an ancient one. Etymologically, the word apology is derived from the Greek *apo* (away, off, absolve) and *logia* (speech) and should be differentiated from the word *apologia*.

Corporations the world over have used public apologies effectively for multiple purposes - as a tool for damage control, for defending their position in a particular situation and also for conveying their commitment to all stakeholders. Due to the advent of e-commerce companies and the increasing reach of the social media companies have their finger on the pulse of public sentiment constantly. Minor events and lapses go viral within a few minutes. The word of mouth is now faster than it was ever before.

The digital medium differs from ordinary face to face communication in many ways: it requires a select choice of words to express the apology,

it can be stored and retrieved at a later date, and, it becomes a quasi-legal document. The art of apologizing is a powerful marketing tool that can induce trust on the one hand and fuel mistrust on the other, if poorly managed.

3.1 The Indian Context

Culturally, saying sorry does not come easy to Indians and more so to Indian business and political leaders. This hesitation can perhaps be linked to the fact that in India a public apology- is seen as an admission of guilt (Maddux et al, 2012). On the other hand it is a common occurrence in countries like Japan and Hong Kong, where the corporate apology is an expression of eagerness to repair damage and relationships and does not imply guilt (ibid). In the past, the speech act of apology was almost absent from the repertoire of Indian corporates and public figures (Kaul et al,2015). Even written apologies were very few and were offered only when there was a strong demand from different sections of society.

However, the new generation e-commerce companies seem to be heralding an attitudinal change in this corporate practice. This could be due to the increasing digital customer base for India Inc. India's internet user base has grown to 324.95 million in September 2015, a 27.73% YOY growth (TRAI, 2016). On social media platforms situations can escalate rapidly, breaking down the traditional barriers of time, location, and gatekeepers of information (Kaul et al, 2015). Thus, in stark contrast to the past, we see a spate of apology e-mails, tweets and blog posts being offered by e-commerce players (ibid). Figure 1 shows the rising trend of apologies being given publicly in the written digital media, with a sharp increase from the year 2016 to 2017.

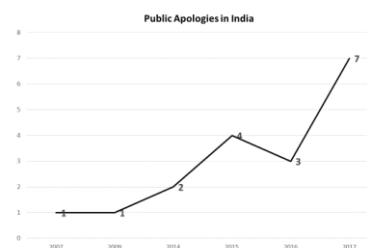


Figure 1: Graph showing rising trend of public apologies in India

Since the practice of offering a public apology is relatively new for Indian businesses, it is to be understood that an apology not delivered effectively rather than mitigating the damage, can escalate the damage done. In this context, it is important to analyze the lexical choice made in these apologies and the implications thereof.

4 Methodology

The research design is qualitative and is based on an analysis of a self-built corpus. The following steps were followed as part of the methodology.

- Corpus Collection
- Keyword Selection
- Determination of POS of keywords
- Determination of the correct sense of the keywords
- Analysis using WordNet, SentiWordNet and Wordnet-Affect.

4.1 Corpus collection

The study uses a self-built corpus. Since the phenomenon of public apologies is relatively recent in India, we could only access a corpus of 18 apologies available in the digital public domain, offered during 2007-2017. The corpus is in the English language as it is the second official language in India. It is the lingua franca spoken amongst a wide proportion of the population and has about 125 million speakers, which is, country-wise, the second highest in the world, only below United States of America⁴. We employ a close reading approach (Amernic et al., 2007) for the analysis.

All of the selected apologies were delivered in India, by Indians so as to understand any cultural implication of the communication. All of these were offered by senior executives of the company or prominent public personalities in India. Of these two were electronic mails, seven were letters, four were blog posts, four were tweets out of which two are related to the same event, and one was a media statement. Out of the 18 apologies, 11 were given by individual(s) in a role, 3 were given by organizations and 4 were given by individuals. The gender-wise distribution of the apology givers is 14 males and 4 females. The apologies selected have been assigned a code number for easy reference.

These apologies are listed below, with the name of the company, the year and a short context.

1. **Infosys (2007)** - Narayana Murthy, founder of one of India's leading technology companies, Infosys, apologized after being accused of making rude comments about India's national anthem.
2. **Satyam (2008)** - Letter written by Ramalinga Raju (the then chairman of India's IT Company Satyam Computer Services) on 30 September to the board of directors of Satyam Computer Services Limited informing them about his company's corporate fraud.
3. **Flipkart (2014)** - E-mail from Sachin Bansal and Binny Bansal founders of Flipkart, a leading retail e-commerce company in India, apologized to disgruntled shoppers after technical glitches during their 'The Big Billion Day' sale on October 7.
4. **Uber India (Dec. 2014)** - Days after it was banned following the rape of a woman by an Uber driver, in New Delhi, India, the global cab booking firm sent out apology mail to its customer.
5. **Myntra 1 (2015)** - Myntra, an e-commerce company in India, apologised to its customers via e-mail for the technical glitches faced during a mega-sale.
6. **ScoopWhoop (2015)** - Editor-in-Chief of ScoopWhoop, an internet media and news company from India, apologised after it carried an insensitive article on a massive earthquake that hit parts of Nepal and India.
7. **Lenskart (2015)** - Bansal & Chaudhary, co-founders, Lenskart, apologised on the company's behalf, when the company sent out an SMS offer which referred to the massive earthquake that struck India and Nepal in poor taste.
8. **AIB (2015)** - AIB (All India Bakchod Comedy Company), a comedy group of India, offered an unconditional apology to the Auxiliary Bishop of Bombay and the community for any offence caused to the christian community by their jokes.
9. **Myntra 2 (2016)** - An apology was posted on Myntra's blog by Shamik Sharma, CTO, Myntra, for inundating customers' phones with notifications due to technical lapse.

⁴https://en.wikipedia.org/wiki/List_of_countries_by_English-speaking_population

10. **Amazon India (2016)** - Amit Agarwal, Vice President and Country Manager, Amazon India, apologized to the Indian External Affairs Minister for hurting Indian sentiment by selling doormats with Indian tricolour on them.
11. **Axis Bank (2016)** - After two Axis Bank managers in New Delhi were accused of being involved in money laundering, Shikha Sharma, CEO Axis Bank, sent an e-mail letter by to all Axis Bank customers to address the issue.
12. **PETA (2017)** - PETA India CEO, Poorva Joshipura wrote an apology to the Indian actor, Suriya, when the latter issued a legal notice to PETA for calling his voice in favour of Jallikattu as a promotional strategy for his upcoming film 'C3'.
13. **Member of Parliament's Apology (2017)** - A Member of Parliament, Ravindra Gaikwad, courted controversy after thrashing an Air India employee. He expressed regret in a letter to Civil Aviation minister.
14. **Tech Mahindra Layoff audio clip controversy 1 (2017)** - In an audio recording that went viral on social media, a female HR executive of Tech Mahindra, a leading IT company of India, was heard telling an employee to resign by 10 am the next day. Shortly afterwards, Vice-chairman of Tech Mahindra, Vineet Nayyar, apologized on the matter.
15. **Tech Mahindra Layoff audio clip controversy 2 (2017)** - Following the Vice-chairman's apology, Mahindra Group Chairman, Anand Mahindra and Tech Mahindra CEO CP Gurnani also came out to apologize on Twitter on the same matter.
16. **Film actor, Priyanka Chopra's apology, (2017)** – Film actor apologized after she addressed the northeastern state of India, Sikkim, as troubled with insurgency and troubling situations, while talking about her Sikkimese production.
17. **Indigo, Domestic airline company, apology (2017)** – A domestic airline company apologized after a video clip, which went viral, which showed the airline staff assaulting a passenger named Rajeev Katiyal.
18. **Air India, National airline company, apology, (2017)** – The airline apologized after an Indian classical singer, Shubha Mudgal, took to Twitter after her Air India business class ticket from Mumbai to Goa was changed to economy class without any prior notice.

4.2 Keyword Selection

After the selection of documents for analysis, a list of keywords was prepared independently by the authors and then compiled. As traditionally held, an apology consists of five major parts (Cohen et al, 1981). These are the following:

- a. **Expression of apology** – using Illocutionary Force Indicating Device (IFID), which is an explicit expression which directly conveys the writer's remorse. (Blum-Kulka et al, 1989).
- b. **Explanation or an account** (e.g. I missed the bus)
- c. **Acknowledgment of responsibility for the offense** (e.g. It's my fault)
- d. **Offer of repair/redress** (e.g. I'll pay for your damage)
- e. **Promise of forbearance** (e.g. I'll never forget it again)

It was decided to conduct a focused analysis of a few selected IFIDs. The four that were selected were - *sorry*, *regret*, *apologize* (*apologizes* and *apologizing*) and *apology* and are termed as keywords henceforth. It was decided to exclude other IFIDs such, *forgive*, *forgiveness*, *excuse*, *afraid*, *pardon* for this study. These selected words were then marked in the corpus.

Figure 2 below shows the frequency of the keywords in the selected apologies. As is evident from the Figure, the adjective *sorry* has the highest occurrence (12) as compared to the other three, keywords – *apology* (including *apologies*), *apologize* and *regret* (both as verb and noun), which are in the range of 7, 6 and 8 each respectively.

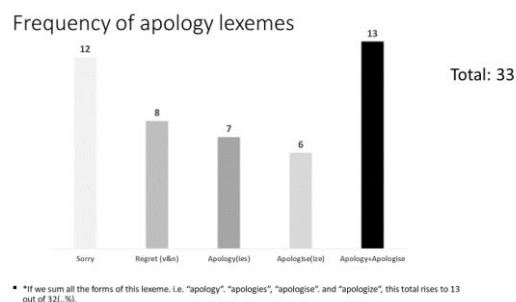


Figure 2: Frequency of Keywords

4.3 Determination of POS of Keywords

To correctly determine the part of speech of the keywords, the sentences where they occurred were put through an online Part-of-speech tagger⁵. This was found to be necessary as some keywords could belong to more than one category. The output of the tagger marked the words *apology* and *regret* as *NN1* (singular common noun), the words *apologies* and *regrets* as *NN2* (plural common noun), the words *apologize* and *regret* as *VV0* (base form of lexical verb), the words *apologizes* and *regrets* as *VVZ* (-s form of lexical verb), the word *apologizing* as *VVG* (-ing participle of lexical verb) and the word *sorry* as *JJ* (general adjective).

4.4 Determination of Keyword Senses

For the determination of the correct sense of the keywords, we put the sentences where the keywords occur in an online sense disambiguator⁶. Sense determination was done as the keywords were found to be polysemous. The senses thus determined were mapped to the senses in English WordNet (3.1). The selected senses are mentioned in the analysis of the keywords in section 5.

5 Analysis

A three-fold analysis of the selected keywords was done. The semantics of the words was studied by using WordNet. In dialogue acts such as apologizing, thanking, or expressing sympathy, affective language is often employed to represent and convey psychological attitudes (Novielli et al, 2013). Also, there is what is called a 'heartfelt apology' as against 'routine apology' (Owen, 1983). Hence, it was decided to further explore the sentiments and emotions associated with the keywords. The sentiments were studied using SentiWordNet and the emotion labels were determined through WordNet-Affect. The analysis and conclusions thus drawn are presented below.

5.1 Semantic Analysis using WordNet

A semantic analysis of the selected keywords was done using WordNet (3.1). We used semantic relations such as hypernymy, troponymy and entailment (Fellbaum, 1998) to find the implications that the keywords may have, as far as their communicative goals are concerned.

5.1.1 Verb – Apologize and Regret

The main aspect of an apology lies in the verb that the tenderer chooses to use. We do an analysis of the two verbs, *apologize* and *regret*, using WordNet, the former being an explicit performative verb (Austin, 1975). The selected sense of the verb *apologize* is defined as *-to acknowledge faults or shortcomings or failing*. Its semantic relation of entailment is *admit, acknowledge*, which means *to declare to be true or admit the existence or reality or truth of*. One of its troponym is *to concede, profess, confess* which is defined as *to admit (to a wrongdoing)*. The superordinate concept of this chain is the verb *think, cogitate, cerebrare* which is defined as *to use or exercise the mind or one's power of reason in order to make inferences, decisions, or arrive at a solution or judgments*. Thus, it is clear from the semantic hierarchy that to *apologize* is to undergo a logical thought process, the natural entailment of which is to admit to a wrong. Once the wrongdoing is admitted the natural consequence should be to take responsibility and offer amends. For instance, apology number 2 says- *I sincerely apologize to all Satyamites and stakeholders*. This is a clear admission of wrongdoing.

The selected concept of the verb *regret* is defined as *to feel remorse for, feel sorry for or be contrite about*. Its inherited hypernymy is *feel, experience*, which is defined as *to undergo an emotional sensation or be in a particular state of mind*. Thus, to *regret* is to undergo a feeling by the offender about the wrongdoing. In the corpus apology number 10, the Amazon India letter states, *To the extent that these items offered by a third-party seller in Canada offended Indian sensibilities, Amazon regrets the same*.

5.1.2 Adjective – Sorry

Adjectives are primarily used for modification of nouns. They have lexical organization and

⁵ Free CLAWS WWW tagger, accessed January 15, 2017, <http://ucrel.lancs.ac.uk/claws/trial.html>, tag set C6.

⁶ <http://babelfy.org/>

semantic properties that are not shared by other modifiers and are unique to them (Miller et al, 1993). The selected sense of the adjective *sorry* in WordNet has the gloss as *feeling or expressing regret or sorrow or a sense of loss over something done or undone*. The see also relation for this is the adjective *penitent, repentant*, which means *feeling or expressing remorse for misdeeds*. Thus, the underlying semantic connotation of the word is a feeling or an emotional state.

An example of this is the sentence in the apology number 3 which states- *We are truly sorry for this and will ensure that this never happens again*. Here the use of *sorry* refers to the feelings expressed by the offender. In our dataset, out of the 18 communications, 7 have the use of *sorry*. In these 7 letters it is used 12 times.

5.1.3 Nouns – Apology and Regret

The nouns are organized as an inheritance system in WordNet (Fellbaum, 1998). Under this system there is a sequence of levels, a hierarchy, in which the lower levels inherit the features of the top levels, plus have at least one distinguishing feature. The two semantic relations of interest in the present study are hypernymy and hyponymy (Fellbaum, 1998). The selected sense of the noun *apology* has the gloss *-an expression of regret at having caused trouble for someone*. It has *acknowledgement* as its direct hypernymy, which is defined as *a statement acknowledging something or someone*. From the communicative perspective this acknowledgment is a precursor to the expectation of some sort of reparation or compensation on the part of the offended. In the corpus, the apology number 7, has the sentence, *We would like to tender an unconditional apology to the society at large and especially to the affected families and to everyone whom we have offended*. This is an unequivocal expression of apology and shows that tenderers do not want to make any excuses for their wrongdoing.

The gloss of selected sense of the noun *regret* is *sadness associated with some wrong done or some disappointment*. The direct hypernymy of this is the concept of *sadness* which is *emotions experienced when not in a state of well-being*. This is followed by the concept of *feeling or the experiencing of affective and emotional states*. Thus the hypernymy relation makes it clear that *regret* is a kind of feeling associated with

sadness. From a communicative point of view, it is simply an expression of an emotion on the part of the tenderer of the apology and not necessarily expression of remorse or liability. For example, in apology number 13, the Member of Parliament states, *I write to convey my regrets for the unfortunate incident that took place on 23rd March 2017 in the Air India flight No. AI 852, seat No.1F*. Given that the writer only uses the noun *regret*, it can be implied that the writer feels sad about the incident but not necessarily repentant. However, it is important to look at the results of SentiWordNet and WordNet-Affect to understand the implications and underlying emotions and sentiments before arriving at any further conclusions.

5.2. Keywords in SentiWordNet

The study of the sentiment associated with the keywords is done using SentiWordNet (3.0), a lexical resource which assigns to each synset of WordNet three sentiment scores: positivity, negativity, objectivity (Stefano et al, 2010). The task of finding the sentiments of the words in an apology as expressed in online forums can be put to a rich set of applications (Esuli and Sebastiani, 2007). As for public apologies these tasks can range from tracking readers' opinions about the sincerity of the communication to customer relationship management.

The selected synsets of the keywords were searched for in SentiWordNet. The sentiment scores of each of them were recorded and the results were analyzed. Table 1 shows the sentiment scores for positivity, negativity and objectivity for each of the keywords.

Keywords	PosScore [0,1]	NegScore [0,1]	ObjScore [0,1]
Sorry (Adjective)	0.125	0.75	0.125
Apology (Noun)	0.375	0.5	0.125
Regret (Verb)	0.25	0	0.75
Regret (Noun)	0.125	0.625	0.25

Apologize/ Apologise (Verb)	0	0	1
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Table 1: SentiWordNet Scores of Keywords

In the analysis of the sentiments associated with keywords, of particular interest are the objective scores. The verb *apologize* has the highest objective score (1.0). Its negative and positive scores are zero. The high ObjScore (Objective Score) of one (1.0) implies that this verb does not convey any sentiment. In a public apology act, this could entail that when an organization or person renders an apology it distances itself from the event or issue and takes an objective position. Similarly the next highest ObjScore is for *regret* as a verb (0.75). Thus, both verbs - *apologize* and *regret*- do not connect with the negative sentiments associated with the act of an apology.

The highest NegScore (Negative Score) is for the adjective *sorry* (0.75), followed by the noun *regret* which has a NegScore of 0.625. The strong negative connotation of the adjective *sorry* could help the writer to convey his genuine feeling of remorse and hence should be preferred by the writer to connect with the reader at an emotional level. Since adjectives are the words that carry the most notions of sentiment, their use in the apology can carry the sentiment most effectively. This implies that the adjective *sorry* carries the highest sentimental load to convey the feeling associated with act of apology.

Interesting is the comparison between the verb *regret* and noun *regret*. While the verb *regret* has a high objective sentiment (0.75); the noun *regret* has a high NegScore (0.625). Thus, ‘*I regret*’ and ‘*with deep regret*’- can have very different sentimental connotations. The verb implying neutral sentiments of the apology giver and not connecting to remorse, guilt or culpability; the noun implying a strong sentiment connect.

5.3 Keywords in WordNet-Affect

We analyzed the results related to the keywords in WordNet-Affect (Strapparava & Valitutti, 2004; Strapparava et al., 2006)), a linguistic resource for the lexical representation of affective knowledge. In this the affective concepts representing emotional state are individuated by synsets marked with the a-label EMOTION. There are also other a-labels

for those concepts representing moods, situations eliciting emotions, or emotional responses.

Using version 1.1, we searched for the keywords in the resource named *a-synsets* and found out its corresponding affective category in *a-hierarchy*. The presence of the word implied an emotion and the absence implied the lack of it. Table 2 shows the output for the keywords.

Keyword	WN-Affect 1.1
	a-synsets / a-hierarchy
Sorry (adj)	<adj-syn id="a#01102326" noun-id="n#05602279" caus-stat="stat"/> / <noun-syn id="n#05602279" categ="regret-sorrow"/>
Regret (verb)	<verb-syn id="v#01225879" noun-id="n#05602852" caus-stat="stat"/> / <noun-syn id="n#05602852" categ="repentance"/>
Regret (noun)	<noun-syn id="n#05602279" categ="regret-sorrow"/> / <categ name="regret-sorrow" isa="sorrow"/>
Apologize	no result
Apology	no result

Table 2. Output of Wordnet-Affect 1.1

Since the words *sorry*, and *regret* (both as noun and verb) are present in the resource we conclude that these words bear emotion. The affective category of the adjective *sorry* is *regret-sorrow* via the noun (n#05602279) and *regret-sorrow* is a *sorrow*. The verb *regret* has its affective category as *repentance* via noun (n#05602852), which in turn is a *compunction*. The noun *regret* has the affective category *regret-sorrow* which is a *sorrow*. Both the adjective *sorry* and the verb *regret* are stative, which means that the emotion related to these words are owned or felt by the speaker. The keywords *apology* (noun) and *apologize* (verb) were not present in WordNet-Affect and hence they can said to be devoid of any emotion.

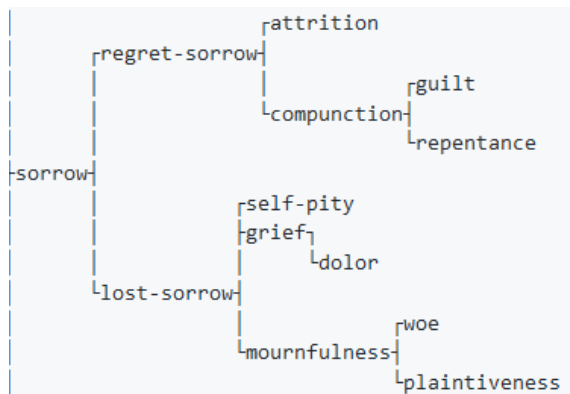


Diagram 1. Sub-tree of negative emotion *sorrow* from WordNet Domains 3.2

Thus it is clear that the emotion of the keywords found in WordNet-Affect are related to negative emotion via sadness and sorrow.

6 Discussion

In this paper we have studied a few selected keywords related to apologies, using the interlinked lexical resources, namely, WordNet, SentiWordnet and WordNet-Affect. This has given us important insights into the semantics, sentiments and emotions attached with these words and has thrown up some interesting observations which are discussed below. It is seen that semantics alone is not sufficient to give the full import of the words. The related sentiment and emotion tags provide a deeper insight into the meaning and the communicative perspective of the keywords.

First and foremost, we observed the fact that, due to a mix of factors such as greater media vigilance, and the viral nature of social media, there is certainly an increased willingness to issue public apologies in India (Kaul et.al, 2015). However, apologies available in the public domain are still limited, and so we cannot draw any generalizations from them. Hence, we can put forth certain trends and suggestions which need to be tested further on a much bigger corpus.

From the apology texts available with us, we posit that the written apology can be an effective tool for damage repair only when it is crafted to communicate honest intent and a sincere tone. Thus, the words chosen should effectively convey the writer's intent.

The main observations drawn from our analysis of the keywords using WordNet, SentiWordNet and WordNet-Affect are as follows:

- **Apologize** (verb) – it is an act of cogitation, with a high objective score and no emotion label. It can be used in formal communication where emotionally laden words are to be avoided.
- **Regret** (noun) – is a kind of sadness, with a high negative score and has the emotion label of regret-sorrow and is stative. It expresses the feeling of the tenderer about the wrongdoing.
- **Sorry** (adjective) – is a kind of feeling, with a high negative score and emotion label of regret-sorrow. This keyword can be effective in situations where emotions and sentiments are strongly involved. Its use can also make the communication sound like a heartfelt apology.
Also, to be noted is the fact that though the adjective *sorry* is found to be the most commonly-used form in different spoken corpora. (Harrison, 2013), yet in our data, the word *sorry* has a higher occurrence in written apologies given by individuals-in-a role and organizations. The reasons for its high occurrence in the written media in India needs to be explored further. It may be due to the very nature of the language use in social media interaction, or it could be because English is second language for Indians and poses its own compulsions on users of this language in the country.
- **Apology** (noun) – is a kind of acknowledgement, which has a high negative sentiment but no emotion label. The noun form *apologies* enable writers to distance themselves and minimise their responsibility for the offence (Harrison, 2013). When writers use this form, they may simply be following convention without consciously seeking to minimise their responsibility. Nonetheless, the established convention incorporates a distancing from the offence. Also, writers use *apologies* when they are

apologising in a role (e.g. as the representative of an organisation). When speaking personally, they use other forms, typically *sorry* (Hatipoğlu, 2005). Another possibility is that use of the noun form enables the writer to avoid the personal pronoun, creating a distance between the writer and the responsibility for the offence (ibid).

In our data, individuals have not used this form at all and of the seven occurrences of the noun form, six are by individuals as representative of an organisation. This co-relates to Harrison's finding that the word *apology/apologies* help the writers to distance themselves from the instance or event.

- **Regret** (verb) – is a kind of feeling, which has a high objective score but an emotion label of repentance. An organization or individual that is repentant of its act is less likely to repeat the transgression. An implication of this emotion label could be that the verb *regret* can imply a forbearance or even a possible reparation.

Of particular interest to us were the keywords *apology* (noun) and *regret* (verb). We compare the SentiWordNet scores and the WordNet-Affect labels of these two keywords. While emotion is defined as a relatively brief episode of response to the evaluation of an external or internal event as being of major significance. (such as angry, sad, joyful, fearful, ashamed, proud, elated, desperate), a sentiment is the positive or negative orientation that a person expresses toward some object or situation (Scherer, 2000). Thus, we can posit that the word *apology* which has no emotion label, has no or weak emotional connect, which also aligns with our conclusion about the keyword *apologize*. In contrast, the verb *regret* helps to effectively communicate the emotion of repentance. Looking at the sentiment associated with these words, we conclude that the mental attitude of the writer is more objective to the situation in using the verb *regret* while it is highly negative in the case of the usage of the word *apology*. This further implies that a high negative sentiment score means that the writer of the apology realizes the gravity of the transgression and to some extent admits to the wrong done. However,

a high objective score implies the writer taking a neutral stance to the situation and not necessarily admitting to any wrongdoing.

7 Future Work

The future plan is to make a cross-cultural analysis of written public apologies. For this purpose, the dataset will be enhanced by adding apologies from a different culture. The idea is to explore whether the linguistic aspects are affected by culture and environment. Also, we propose to validate our psycholinguistic analysis by mapping it to the readers' perception of these keywords. It will also be interesting to do a cross-lingual analysis by studying the lexical semantics of apology related words in native Indian languages.

Further, we have come across words which are being more profusely being used in written communication which were earlier thought to be part of speech acts, notably the word *sorry*. We want to understand whether this is due to the very nature of the social media where they are being used or is it because of overuse that certain words traditionally used in written media have been bleached of the sentiments and emotions attached with them, hence giving space to other words.

It is also proposed to make this study interdisciplinary by lending it to computational analysis. With an increased data set the study can be used to build a supervised sentiment analyzer using lexicons or for text categorization according to affective relevance, and opinion analysis.

Acknowledgement

We thank Dr. Sridhar Swaminathan, post-doctoral fellow at Bennett University, India, for his help in accessing WordNet-Affect.

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