

Table 1: Tweets categories and their relative frequencies

to contain no useful information (e.g "Even Steve Jobs is wrong sometimes... \$AAPL http://ow.ly/1Tw0Z"). These tweets were labeled Irrelevant.

The rest of the tweets were classified into two major categories: *Facts* and *Opinions*.

Facts can be divided into four main subcategories:

- 1. News: such tweets are generally in the form of a tweeted headline describing news or a current event generally drawn from mass media. As such they are reliable but, since the information is available in far greater detail elsewhere, their added value is limited.
- 2. Chart Pattern: technical analysis aims to provide insight into trends and emerging patterns in a stock's price. These tweets describe patterns in the stock's chart without the inclusion of any predicted or projected movement, an important contrast to Chart Prediction, which is an opinion tweet described below. Chart pattern tweets, like news, are a condensed form of information already available through more indepth sources and as such their added value is limited.
- 3. *Trade:* reports an actual purchase or sale of a stock by the user. We consider this as the most valuable form of tweet.

4. *Trade Outcome:* provides details of an "inverse trade", the secondary trade to exit the initial position along with the outcome of the overall trade (profit/loss). The value of these tweets is debatable since although they provide details of a trade, they generally describe the "exit" transaction. This creates a dilemma for analysts since traders will often exit not because of a perceived change in the stock's potential but as a result of many short-term trading activities. For this reason *trade outcome* provides a moderate insight into a user's position which should be viewed with some degree of caution.

*Opinions* can also be divided into four main subcategories:

- 1. Speculation: provides individual predictions of future events relating to a company or actions of the company. These are amongst the least reliable categories, as the individual user is typically unable to justify his or her insight into the predicted action.
- 2. Chart Prediction: describes a user's prediction of a future chart movement based on technical analysis of the stock's chart.
- 3. Recommendation: As with analyst recommendations, this category represents users who summarize their understanding and insight into