More than just a gut feeling - sentiment analysis in risk management

By Olivia Mccollum   7 Mar 2016

There isn't a single part of our lives the internet hasn't reached. Our culture, economy and society as a whole have all migrated online. But how does this medium affecting risk management? Furthermore, what does sentiment analysis have to do with all this?

Sentiment analysis 101: what is it?

Sentiment analysis (or opinion mining) is a relatively new type of "digital hybrid". It's an overlap of computational linguistics, natural language processing and text analysis, with an increasingly generous dose of artificial intelligence blended into the mix.

In short, sentiment analysis is the process of extracting objective information from different sources of subjective data. Applied in a variety of fields – from marketing to customer service and beyond – this mechanism has the power to shed light on issues either too difficult to measure or simply ignored– for example, customers' opinions on your product or your employees' level of satisfaction at work.

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In risk management, opinion mining can help you understand any subjective opinions about your business, and create a strategy according to dangers you may come across in your investigation.

What are its applications?

We are surrounded by textual data everywhere we go. Articles we read (or write), reviews, social media updates. However, analysing each one manually would take an impossible amount of time and resources.

Opinion mining solves this problem. Where manual analysis can't produce results in a reasonable time, sentiment analysis automates textual data and provides businesses with clearer answers to their questions.

For example, banks can use it to improve their credit-rating systems. At the moment, their credit-rating assessments are based on formal data – but with sentiment analysis, they could factor in other metrics when assessing the risks posed by a particular customer.

Opinion mining could also be particularly helpful with regards to the relationship between financial institutions and corporate clients (where the credit-rating system is based on data offered by the customer) – and could be extremely useful within emerging markets where the lack of structured data could lead to potential risk assessment issues.

Furthermore, sentiment analysis can play a very important role in early-warning systems. Considering the speed at which textual data is published online and how fast it can be analysed through opinion mining techniques, every published article or review can be filtered through a series of criteria, so that only the most relevant are analysed for signs of trouble.

Sentiment analysis, together with econometric analysis, can also provide businesses with a better understanding of their own industry's trends.

What is the downside?

As with any new concept, sentiment analysis isn't perfect yet.

To extract quantitative data from qualitative data, sentiment analysis assigns particular sentiment indexes to each text. The algorithm classifies words according to the emotion with which they are associated. In this sense, automation is an issue, because an algorithm can't interpret the tone of the text.

For example, irony and sarcasm could be problematic in opinion mining – they can't be understood by machines, which would affect the way texts are analysed.

In the end, however, sentiment analysis techniques are still a great option for businesses who want to go beyond data that's purely quantitative. The main reason opinion mining can actually be valuable is that it's one of the best attempts we've ever made to measure the unpredictability of human reactions.

Take the bank and corporate client scenario again. When the client applies for a business loan, the bank can use a wide range of quantitative analysis techniques to assess the client's trustworthiness, and whether it will meet its long-term business goals.

But using sentiment analysis, the bank can introduce a whole new factor to the analysis: the human reaction of the corporate client's customers, to which a numerical value can be attached. What's more, the bank can actually include the failure margin in their risk assessment, such as predicting how long faithful customers will continue to buy from the corporate client in the event of a major failure.

ABOUT OLIVIA MCCOLLUM

Olivia is a zealous Manager - Finance residing in Florida. She loves pop music and romance movies. She usually writes about technology and marketing.
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