The big idea: Airbnb serves as an online marketplace that connects owners of homes to guests desiring to rent a vacation place at a reasonable price for a short time. The part-time landlord might be a business traveler making the most of an often empty condo, while renters could be a couple with kids eager to enjoy the bright beaches of Miami from the comfort of a home instead of a hotel. As Airbnb pursues growth, it could use a technique called text mining — which offers a way to improve customer and host encounters — to capture more of the vacation rental market. By assigning words a value, text mining allows businesses to decipher the meaning of groups of words. The company could scour the reviews of customers and hosts and mine data to produce actionable intelligence on factors such as pricing. But is the text data in the reviews adequate? Text data is expensive to collect and interpret: Just how valuable would the information be?

The scenario: Airbnb began in 2008 in San Francisco, and within five years it disrupted the hospitality industry. Airbnb charges guests up to 12 percent in reservation fees, while hosts pay a 3 percent service fee. To increase revenue, Airbnb has looked for ways to help hosts market their homes, encouraging them to use professional photographers to show off their quarters and publishing a magazine where users can tell their stories. That strategy made the company a leading rental website. As of 2015, Airbnb offered properties in 34,000 cities in 190 countries. More than 800,000 people worldwide had rented out their homes through the company, housing more than 20 million guests. The company was also unique because all its listings were in one place — its website. But the company faced stiff competition, including from Home Away, which had changed its business model to more closely match that of Airbnb. Using a text-mining tool might help Airbnb keep its edge over the growing competition from Home Away and others.

The resolution: Based on research using public information available on Airbnb, it’s apparent that the company could benefit from text mining. The company could translate its Web pages — chock-full of comments — into useful and actionable information. For example, the sentence “Nicholas was an awful host and the house was a little dirty but the location was beautiful and near a subway” would be turned into a numerical value by the data-mining tool. In essence, the sophisticated sentiment analysis would turn written words into quantifiable consumer preferences. Insights from mined information are consistent with key changes made by Airbnb, including recommending optimal prices to hosts, based on interpreted data, and promoting reviews instead of prices in certain locations.

The lesson: The mined data, translated into quantifiable information, could show Airbnb how to customize its strategy, increasing profitability and allowing the company to sprint ahead of its competition.

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