Search engine data a useful predictor of stock returns: study

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(PhysOrg.com) -- Those looking for stock tips around the water cooler or on the golf course might try one more source — online search engine data.

New research by a team of researchers at the KU School of Business demonstrates that online ticker searches – for example, "XOM" for Exxon Mobil – can predict abnormal stock returns and trading volumes during the subsequent week. The research also shows that highly volatile stocks will be more sensitive to online search intensity than less volatile stocks.

The research was conducted by Kissan Joseph, associate professor of marketing; Jide Wintoki, assistant professor of finance; and Zelin Zhang, doctoral candidate in marketing, all at the KU School of Business. Their results will appear in an upcoming issue of the International Journal of Forecasting.

"There's growing evidence in various disciplines that online search data can predict behavior," Joseph said. "We've demonstrated that search engine data – the kind you can easily retrieve from Google Insights for Search, for example – is a reliable predictor of stock returns and trading volumes, especially for volatile stocks whose true value is hard to gauge."

According to Joseph, individuals who do online ticker searches are typically less sophisticated, non-institutional investors who are looking to

buy stock for reasons that aren't always well-informed or justified. Thus, ticker searches serve as a valid proxy for "investor sentiment," a set of beliefs about a stock not necessarily related to its fundamentals.

The study finds that a portfolio that is long (bullish) on highly searched firms and short (bearish) on less frequently searched companies generates abnormal returns of approximately 7 percent annually.

It's the team's second finding – that highly volatile stocks will be more sensitive to search intensity than stable, easy-to-arbitrage stocks – that is especially striking. Joseph posits that banks and institutional traders seeking opportunities for arbitrage (the practice of taking advantage of pricing anomalies) can correct the excess returns generated by investor sentiment more readily for stable stocks than for volatile ones. Consequently, the more difficult a stock is to arbitrage, the more sensitive the stock returns are to changes in online search intensity. These findings further confirm the premise that the search intensity is a valid proxy for investor sentiment.

"Taken together, these two findings tell a consistent story: the intensity of searches for ticker symbols serves as a valid proxy for investor sentiment, which, in turn, is useful for forecasting stock returns and volumes," Joseph said.

The team's research utilizes S&P 500 firms over the period 2005-08.

The idea of employing online search data to predict behavior is not new. Researchers have employed search behavior measures to predict automobile sales and tourism, and they've even found that search engine inquiries related to influenza successfully predict the proportion of patients visiting health professionals with flu-like symptoms.

Today's digital environment provides previously unavailable measures of

consumer search behavior. Moreover, all signs point toward an increase in the analysis of online search data. In particular, Google, the [search engine](#) with the highest market share, publicly provides information on the intensity of search for any keyword. Similarly, social platforms such as Twitter and Facebook can also potentially provide real-time information on search behavior.

"Clearly, the availability of consumer search data is only going to increase as we move further into the digital age," said Joseph. "Consistent with this trend, we continue to recognize that what individuals search for leaves a trail of what we collectively think and what might happen in the future. You could say that online search data are capturing our collective consciousness."

Joseph says the trading rule behind their findings – long on high-search-intensity stocks and short on low-search-intensity stocks – may not be profitable because of the trading costs associated with re-balancing the portfolio every week. But it's possible that examining search intensity in tandem with other evidence may indeed prove useful to investors. In addition, it's also possible that more timely measures of search intensity, such as those emerging on Facebook, Twitter and other social network sites, may be profitable even after accounting for trading costs.

"At this point, the costs of constructing a portfolio and rebalancing it every week outweigh the benefit," he said. "But from a scientific perspective, Google search data are predictive of future stock prices and volume. By itself it isn't a way to make money. But if you have 10 good reasons to buy a stock, this might be No. 11."

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