

## **Researchers say web searches are good predictors of success**

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(PhysOrg.com) -- Researchers at Yahoo! have been collecting data on Web searches for movies and games and comparing them with other predictors of success, such as product reviews and production budgets, and have discovered that, while not as accurate as traditional means, adding search data into the mix makes predictions more successful overall.

Earlier studies demonstrated that Web searches often reflect real-time statistics, and this led a Yahoo research group to investigate if searches could also be good predictors of trends. They selected dozens of upcoming movies, games and songs and collected data on the number of Web searches made on each, beginning up to six weeks before their release, and then compared this information against the measures of success, such as box office takings and video game sales.

They then compared the Web search data with traditional prediction indicators such as movie reviews, production budgets, critics' ratings, previous ranking on the Billboard chart, and the Hollywood Stock Exchange, which is a futures market for trading box-office takings for future releases.

The team, led by Yahoo's Sharad Goel, also looked at Web searches of flu and colds to see if they were accurate real-time indicators of infection, as compared with data from the Center for Disease Control and Prevention.



The results of the investigations, published this week in the Proceedings of the National Academy of Sciences (PNAS) were that Web searches are reasonably accurate at spotting trends, especially for movies and video games, but were generally (but not always) outperformed by more traditional predictors. Search data did outperform traditional predictors in the area of non-sequel video games. The most accurate predictions, however, were obtained by combining traditional data with the Web search information.

Yahoo researcher Jake Hofman suggested the accuracy of predictions for new video games was probably due to a lack of data for non-sequel games, with the only information generally available being critics' reviews, which turned out to be inaccurate as predictors.

The search information was also sometimes more accessible than traditional indicators such as production budget information for video games, and provides a decent guide if no other information is available. It is also especially useful at times when there is a sudden change in trends.

Goel said information from Web searches will continue to grow and will be an important analysis tool in the future, as long as the information is available from search engines such as Yahoo.

Google has also studied <u>Web searches</u> as a predictor, and developed a tool called Google Flu Trends that used search queries for "flu" and "influenza" to predict the rate of illness in different geographic locations. The tool was able to predict the likely number of cases in the US over a week earlier than the Centers for Disease Control and Prevention could.

**More information:** Predicting consumer behavior with Web search, Sharad Goel et al., *Proceedings of the National Academy of Sciences*,



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