

Pay-per-click advertising lacks controls against fraud

February 17 2016, by Brittany Magelssen

Payment-per-click is one of the most popular pricing models for online advertising, but the rate of click fraud is staggering. In 2014, marketers lost \$11.6 billion in advertising because of fraudulent clicks.

Three UT Dallas researchers, along with a former PhD student, examined the process of identifying click fraud. In their study, published in the December issue of *Information Systems Research*, they proposed a way to support technological improvements.

In the pay-per-click model, advertisers pay the service provider each time someone clicks their ad. Although it's the most prevalent model, it is susceptible to click fraud, a practice of imitating a legitimate user clicking on an ad to generate a charge.

"One of the reasons you have advertising on the Web is because it's very easy to measure the impact of the advertising," said Dr. Suresh Radhakrishnan, Constantine Konstans Distinguished Professor of accounting. "If somebody likes something, they can click on the ad and go directly to the site. Hopefully, that translates to a sale. No matter whether it does or not, the [advertiser](#) pays for these clicks. In the pay-per-click model, if people or bots are clicking fraudulently, then the advertiser is losing money."

The study considers identifying click fraud as a three-stage process: the service provider—for example, Google or Yahoo—classifies clicks as fraudulent or not. Then, the advertiser does the same using his own

technology. If there is a disagreement, the service provider examines further and its conclusion is considered binding.

"The problem with the approach is intuitive. In the service provider's point of view, whether it's a valid click or a fraudulent click doesn't matter. He gets paid," said Dr. Young Ryu, associate professor of information systems. "The advertiser wants to verify whether the click is fraudulent or not. Even if the click is valid, the advertiser may want to say it's fraudulent because of the pay-per-click cost."

He said the study found that this conflict between the parties, and the lack of information about the technology used by each, does not incentivize service providers and advertisers to improve their technologies to identify fraudulent clicks.

To solve the problem, the researchers suggest that an independent third party investigate and flag fraudulent clicks when a conflict arises between the advertiser and the service provider. This arrangement induces the service provider and the advertiser to improve their respective click fraud detection technologies.

"In the long term, for the pay-per-click model to survive, you will need to make sure both parties are happy, so technologies will have to get to a point where click fraud is minimized," said Dr. Varghese Jacob, the Lars Magnus Ericsson Distinguished Professor of [information systems](#) and vice dean of the Naveen Jindal School of Management. "People will have to invest in such improvements. Otherwise the pay-per-click model may not be sustainable."

Radhakrishnan said there could be alternative ways to provide incentives to improve [click fraud](#) identification technologies.

"The [service providers](#) need to be innovative to address the problem," he

said.

The researchers said that they continue to examine this issue. In particular, they are studying aspects such as who pays for the third-party investigation – the advertiser or the service provider – and its implications.

More information: Min Chen et al. Can Payment-per-Click Induce Improvements in Click Fraud Identification Technologies?, *Information Systems Research* (2015). [DOI: 10.1287/isre.2015.0598](https://doi.org/10.1287/isre.2015.0598)

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