

# Data dampens drug trade on the dark web

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Taking down the drug trade with data. New research in the INFORMS journal *Information Systems Research* showcases the power of data and analytics in understanding how drug transactions on the dark web may be disrupted. The study looks at data from the three largest darknet markets to show the impact of selectively targeting large drug vendors online.

"By looking at various outcomes from the policed site Silk Road 2 (SR2) with those from nonpoliced sites, Agora and Evolution, we find that enforcement efforts on the policed site dramatically reduced subsequent [transaction](#) levels and the number of remaining vendors," says Jason Chan, one of the study's authors from the University of Minnesota.

"News of the arrest of U.S.-based participants on SR2 led to a 39% decrease in the number of transactions for each [vendor](#) on average. And there was a 56% decline in the number of remaining vendors on the policed site. This result suggests that the policing effort induced a negative shock to the dark web ecosystem in which a significant proportion of [drug](#) sellers decided to exit altogether."

The study, "Shedding Light on the Dark: The Impact of Legal Enforcement on Darknet Transactions," shows that the arrests of darknet participants through "selective targeting" puts downward pressure on transaction volume and weekly participation levels on the affected site.

"Small darknet drug vendors were most deterred by the arrest event, and drug vendors selling dangerous drugs were more deterred relative to those selling less dangerous drugs," says Shu He, a co-author of the study, from the University of Florida. "The enforcement was not only effective in deterring users in the same country as the arrestees, but also had a spillover effect on darknet participants who were beyond the prosecutorial jurisdictions of the arrestees."

The researchers say their figures are economically significant and serve as initial evidence in support of the effectiveness of selectively targeting large-scale drug vendors to dampen darknet activities.

"Compared with site shutdowns, which are expensive and require a lot of manpower, selective targeting is less costly and time-consuming, yet still able to reduce drug-dealing activities on the darknet market," says

Dandan Qiao, a study author from the National University of Singapore.

The average daily transactions on darknet markets involve at least \$2 million worth of goods and services. The authors urge that it's imperative for policymakers and [law enforcement agencies](#) to use a variety of different policing strategies to keep larger vendors at bay.

"Selective targeting works and our analysis makes it clear that a sizable portion of the darknet users are deterred by the arrest of major vendors on darknet sites," says co-author Andrew Whinston of the University of Texas at Austin.

**More information:** Jason Chan et al, Shedding Light on the Dark: The Impact of Legal Enforcement on Darknet Transactions, *Information Systems Research* (2023). [DOI: 10.1287/isre.2023.1222](https://doi.org/10.1287/isre.2023.1222)

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