

The curious case of OpenBazaar

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OpenBazaar is a peer-to-peer network that allows users to buy and sell products, including illicit items. Its decentralized nature has some calling the market “fed-proof.” Credit: Carnegie Mellon College of Engineering

A year after the infamous Silk Road darknet marketplace was shut down by the FBI in 2013 for facilitating the sales of all things from guns to

cocaine, a group of programmers developed a new darknet market, aptly naming it "[DarkMarket](#)." Shortly after its launch, DarkMarket rebranded itself with a more innocuous name, "OpenBazaar."

On its face, OpenBazaar looked like Silk Road, but with one key difference: it was fully decentralized, meaning that it wasn't hosted on servers in one central location that could be easily shut down by law enforcement. Instead, the service was hosted on every one of its users' computers, otherwise known as a peer-to-peer network.

OpenBazaar isn't the first online anonymous marketplace to go online since the Silk Road was shut down, but it is the first decentralized one. This has led some to considerable hype, with [some believing](#) the marketplace would be "fed-proof."

This piqued the curiosity of Privacy Engineering graduate student James Arps and CyLab's Nicolas Christin, who published the [first major analysis of the Silk Road economy](#). *What does this market—its products, users, and vendors—actually look like?* The duo ended up spending 14 months monitoring OpenBazaar's activity spanning 2018 and 2019 and are presenting their findings in their study, "[Open Market or Ghost Town? The Curious Case of OpenBazaar](#)," at this week's [Financial Cryptography and Data Security](#) conference in Malaysia.

"We observed a reasonable number of products on the marketplace, but the economic activity was modest at best," says Christin, a professor in Engineering and Public Policy and the Institute for Software Research. "And, most of this [economic activity](#) seems to be generated by illicit product sales."

To collect the data, the researchers created a custom crawler—a bot that automatically browses and indexes content—to scrape data about OpenBazaar's products, sellers, and users. Their crawler would generate

an overall picture of the market every two to four hours on a daily basis.

Over the course of those 14 months, the team observed more than 24,000 distinct product listings, more than 1,000 sellers, and more than 5,000 users who were only interested in browsing or buying items. While that may sound like a reasonable collection of activity, the researchers also found that fewer than 200 sellers had documented at least one sale during the period.

OpenBazaar's observable sales during the 14-month period totaled around \$86,000, the researchers believe, equating to roughly just over \$6,000 a month. Cannabis, stimulants, and psychedelics alone accounted for more than 70 percent of sales. Compare that to the [Silk Road in 2013](#), which regularly generated more than \$10 - \$15 million per month in sales.

The team also observed the overall lifespan of users to be quite low. More than two-thirds of the users stayed on the network for less than a day and never returned. Vendors, on the other hand, tended to stay a bit longer, especially if they documented at least one sale. Roughly three-quarters of all participants used the network for less than a week, while a few users remained on the network throughout the entire measurement period.

"So far, OpenBazaar just isn't a very popular market," says Christin. "One big contributing factor may be that OpenBazaar isn't as easy to search for illicit products as centralized marketplaces."

Because OpenBazaar's built-in search engine censors illegal items, users must navigate to third-party services to be able to find them, which may be too complex for most users to do. Centralized alternatives, however, still provide an easy way for users to search for illicit products. Additionally, since OpenBazaar operates on a peer-to-peer network,

every participant in the market is required to download special software to access the market instead of browsing the [market](#) on the web like centralized markets.

Until changes are made in these areas, the researchers believe, OpenBazaar may remain the ghost town that it currently resembles.

Provided by Carnegie Mellon University

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