The mainstreaming of new technology into drug dealing and drug market research

Dr Jack Cunliffe, University of Kent

This research note charts the mainstreaming of digital technology into drug markets from the early beginnings when the internet was in its infancy. It explores the creation of darkweb illicit markets which have attracted much academic and policy focus, but also considers newer developments encompassing social media and the clearweb. At the same time, it briefly outlines the new digital avenues of investigation open to researchers interested in understanding drug markets.

It has, perhaps apocryphally, been claimed that the first ever financial transaction via networked computers was for a relatively small amount of cannabis, traded between two students across the continental United States using the internet’s precursor, the ARPANET (Markoff, 2005). And it is certainly true that in the early days of what is now recognised as the internet, there were forums, message boards and websites where people could arrange to purchase illicit drugs. Perhaps the best known of these was initially called Adamflowers and launched around 2005, operating as a middleman connecting buyers and sellers via encrypted email. It eventually moved to become a hidden service on the Onion Router network (commonly known as Tor) and changed its name to The Farmer’s Market. In its final guise, it operated as a more recognisable e-commerce hub, with customer services, feedback ratings and the processing of payments for drugs using a variety of obfuscated methods, but fundamentally relying on mainstream payment systems such as Western Union and PayPal. While this operation was profitable for the site administrators it remained rather niche with a best estimate, provided by the eventual Grand Jury indictment against the founders that was unsealed after the conclusion of Operation Adam Bomb, of about 3,000 customers and just over a million dollars’ worth of trade over a 2 year period (United States of America vs Willems et al., 2011).

It wasn’t until the launch of the Silk Road in February 2011 that using technology to buy illicit substances began its journey to mainstream attention. What was revolutionary about the Silk Road wasn’t particularly the technology it drew upon—essentially a hidden service website much like Farmer’s Market—but that it ‘put all the pieces together’, using postal delivery for purchased goods, and made use of a secure ‘anonymous’ payment system with Bitcoin and an escrow service, solving one of the pinch points of previous remote systems: the exchange of funds. Although the site was closed by law enforcement in October 2013 (leading to the imprisonment of the main administrator, Dread Pirate Roberts aka Ross Ulbricht, for an unfeasibly long amount of time) the Silk Road developed a paradigm that subsequent similar hidden services have since all but exactly mimicked: a marketplace framework with products listed by different vendors, detailed descriptions of those products and the vendor themselves, with customer feedbacks available to help build trust. These subsequent markets have been numerous, and for a period sprung up quicker than law enforcement activity could close them down, even if the main reason for any one market’s disappearance tends not be seizure by the authorities, but a rather mysterious vanishing usually accompanied by the unknown administrator(s) making off with any cryptocurrencies held by the market - an occurrence that has become known as an exit scam.
A Gawker piece published four months after launch of Silk Road (Chen, 2011) brought the site to the attention of the world and was closely followed by a prescient missive penned by Barratt that criminologists ‘should definitely watch this space’ (Barratt, 2012, p. 107). As detailed in our book (Martin et al., 2019) this message has been heeded by the research community with over 150 papers published by more than 250 authors, using an array of different methodologies, from the qualitative to the quantitative, drawing in computer science, economics, criminology, the medical profession and more. These pieces of research have uncovered a vast array about the nature and function of these markets, the implications for the real world, uncovered trends in drug consumptions, questioned how illicit markets construct trust, investigated and reported on pricing, and made extensive use of the data available from the markets or accompanying forums themselves. Some of the methodologies developed to understand these markets, for example digital trace work, have subsequently been taken up and implemented by major research groups such the Australian National Drug and Alcohol Research Centre and the European Monitoring Centre for Drugs and Drug Addiction.

So, cryptomarkets—as they have come to be known—are the most researched place where there has been an integration of digital technologies into the drug purchasing landscape but they remain hard to use (Kowalski et al., 2019), requiring knowledge of Tor, PGP (Pretty Good Privacy) encryption, and an ability to get and use cryptocurrencies. This has meant that while they have been adopted widely and in numerous countries, including some interesting innovation around drug delivery in ex-Soviet countries, their usage hasn’t become the only way in which technology and drugs are linked. Perhaps it is unsurprising, with the increased integration of the virtual world into our everyday lives, and especially with the huge increase in the amount of social media engagement, that illicit drug exchanges are making increasing usage of these newer communication channels.

Within the new media drug markets, drug dealers are adopting a range of approaches, from the novel to the obvious, and ranging from the highest levels of criminal drug trade, as exemplified by the EncroChat debacle where high level criminals paid thousands of pounds for access to a secure communication app that ran in parallel to the main operating system on their phone, only to find it had itself been compromised by law enforcement – perhaps illegally (Goodwin, 2022), all the way down to street level dealers. For instance, for a short while there was an automated bot that ran on the Telegram network that allowed people to place orders automatically via the Telegram app (Barratt et al., 2022). Dealers have also made use of Telegram to directly contact their customers along with other, related, messaging services, such as Signal, Wickr, WhatsApp, and research has even uncovered people advertising their products on Instagram, Facebook, and Snapchat (Demant et al., 2019; Moyle et al., 2019). While it is true that people perceive the ‘more secure’ apps—with higher levels of encryption and anonymity—to be more secure, this has not stopped people using the most publicly accessible platforms as well (Bakken & Demant, 2019). The increased numbers of people using social media in general has meant that these methods of drug exchange remain hidden; not necessarily by using advanced technologies, but because there are so many people communicating within the space meaning each individual remains hidden in the crowd. This echoes how the mass adoption of pagers in the late 1990s/early 2000s also allowed drug deals to go undiscovered.

If one is to believe the adage that ‘the internet never forgets’ this presents both risks to the participants but also opportunities to the researcher. For the participants, the risks are quite clear: identification, whether at the time of the purchase or retrospectively, is a possibility that must be at the front of the minds of anyone who uses these mediums. For the researcher, in much the same way that cryptomarkets spawned a whole new area of research with a plethora of new methodologies and approaches, the same can be said of investigations into digitally enabled drug dealing more generally. The possibilities for insight into one of the traditionally
hardest trades to get concrete facts about may very well be opened up if we can develop new methods that capture this digital information and ways to extract meaning from that data (as Enghoff & Aldridge, 2019, have argued). This will require criminologists to embrace new research methods, and to actively work with researchers in different realms, particularly computer scientists but also perhaps with industry providers of these services, programmers, and a whole raft of other digital content platforms and creators, all alongside our more traditional approaches. If the research history of criminology is anything to go by, our ability to move with the times and adapt to new forms of illicit activity stands us in good stead to meet these challenges.

References
United States of America vs Willems et al., GR 11 01137 (Central District of California September 2011).