HEART OF
darkness

The dark net is the internet's version of the Wild West, where organised crime is rampant and law enforcement holds running battles with cyber criminals. Macquarie researchers are leading the fightback.

Words Fran Molloy
Images Chris Stacey

ON SILK ROAD – AN ONLINE MARKETPLACE ON THE DARK NET – DRUG BUYERS LEFT EBAY-STYLE RATINGS ON THE SERVICE LEVELS AND PRODUCT QUALITY OF THEIR DEALERS, WHO ADVERTISED ORGANIC CANNABIS, FAIR TRADE OPIUM AND CONFLICT-FREE COCAINE.

Payments were made through the stateless crypto-currency Bitcoin, and the drugs usually arrived by post, vacuum-packed and imaginatively disguised.

Despite the FBI's shutdown of Silk Road in a spectacular 2013 raid, this has had problematic outcomes, with customers moved from Silk Road – which had a charter prohibiting the sale of stolen identities, pornography or weapons – to a range of different sites where they are exposed to a wide gamut of criminality.

FRACTURED FAIRY TALE

Dr James Martin, Director of Criminology at Macquarie University's Department of Security Studies and Criminology, says that within the internet's vast landscape there are dark depths, beyond the reach of Google's indexing, known as the Deep Web.

Within that Deep Web lies the Dark Net – shadowy corners holding encrypted sites that can only be explored through a special browser called TOR (short for 'the onion router') – corners where everyone is anonymous and illicit behaviour runs rife.

It is the internet's version of the Wild West, where organised crime is rampant and law enforcement often stymied – but the Dark Net is a complex place, not wholly bad or good.

"Some prefer to call it the Anonymous Web, because the terms Dark Net or Dark Web sound so sensationalist," Martin says, adding that while 'dark' implies a shady, malicious place to some, it can also infer concealment or anonymity, and reflects the initial intent of TOR encryption.

"The Dark Net was originally set up by US Naval Intelligence, ostensibly to allow people living under authoritarian regimes to communicate without fear of detection from their own government."

WEARING THE WHITE HAT

Martin's own research interests include the phenomenon of organised crime and illicit drug trading on the encrypted Dark Net.

In his 2014 book, *Drugs on the Dark Net : How Cryptomarkets are Transforming the Global Trade in Illicit Drugs* Martin says that cryptomarkets constitute a 'perfect storm' of potential crime hysteria and moral panic by combining the emotive and little-understood issues of illicit drugs and the Dark Net.

But for analysts working outside government cryptomarkets, drug networks are not the prime target.

Robert McAdam (BA, 1998) is a white hat hacker – a former police officer and Macquarie University graduate, who for more than a decade has run Pure Hacking, a highly regarded IT security consultancy serving financial, government and business clients.

For his clients it is the Dark Net's organised crime networks that keep many of them awake at night.

For the last few years, the firm has offered a black ops service, trawling the Dark Net to close down commercial threats.

Finding items like credit card details and stolen identities or intellectual property offered for sale means that clients' security breaches can be locked down fast, McAdam says – often before any damage has been done.

Dark Net markets facilitate some real damage, he adds – and not just to corporations.

"It can take 12-24 months for a person to re-establish – a trust relationship with banking institutions after their

> **"** *One side creates a new way to either defend or attack, and the response is a counterattack or defence to that – this perpetual technical arms race just keeps on going.* **"**

identity has been stolen. It can really be quite traumatic," he says.

But despite popular belief, McAdam says that cyber security isn't always playing catch up – it's often ahead. He uses the analogy of an arms race to describe the scenario.

"One side creates a new way to either defend or attack, and the response is a counter-attack or defence to that – this perpetual technical arms race just keeps on going."

WAR ON DRUGS

It's impossible to tell how much of this technological arms race is linked to the global drug trade, but Martin argues the connections are inevitable.

In Australia, the Australian Crime Commission estimates that international mail and air cargo accounts for 96 per cent of all incoming drugs seized.

While Martin says the vast majority of drug sales happen the old-fashioned way, through interpersonal networks, that is now changing.

Online drug sales offer users plenty of advantages, with user reviews providing an indication of quality and drugs and dealers vying to rank higher to improve sales and achieve higher prices.

However, Martin believes that the associated harm is probably less than that occurring through conventional modes of drug distribution.

Drug users online tend not to be stereotypical addicts, he adds. "The minimum requirements to buy

drugs online are a bank account, a computer, reasonable IT skills. These users tend to be middle class, perhaps better educated."

He says that data shows that around 90 per cent of illicit drug takers use them in a non-problematic fashion – a similar proportion to alcohol users.

"They may indulge on weekends but otherwise live productive, fulfilling lives and their drug use doesn't come at a significant cost to them."

He even argues that online drug sales present a less harmful alternative than conventional drug markets.

In Martin's book, which was used as background research by the trial judge presiding over the case of Silk Road mastermind Russ Ulbricht, he projects that crypto-markets will diversify, increasing in popularity and taking on a greater proportion of the global illicit drugs market, and radically transforming this market in the process.

Interestingly, he also argues that drug prohibition has been one of the greatest policy disasters of the 20th century.

"It hasn't reduced the associated harms – if anything." he says. "It's created a whole new set of harms. Many scholars argue that the war on drugs that governments have been waging since the 1970s make illicit drugs much more harmful than they'd otherwise be."

The most obvious is the creation of the world's largest and most lucrative black market, worth hundreds of billions of dollars, most of it controlled by organised crime.

He says evidence shows de-criminalisation of drugs deliver tangible benefits – in Portugal, for example, the introduction of decriminalisation of all drugs has lowered crime, reduced both adolescent and long-term drug use and delivered higher rehabilitation rates.

"Decriminalisation and a quality controlled drug marketplace could, ironically, be the solution to decades-long trench warfare on drugs costing billions of dollars and many thousands of lives," Martin says. ❖

THE GRADUATE

Macquarie University graduate Sarah Iannantuono completed a Master of Policing, Intelligence and Counter Terrorism with Master of International Security Studies in 2015 and is now a cyber security consultant at KPMG where she works in information protection and business resilience.

She specialised in intelligence subjects and says that reading Martin's book on the Dark Net sparked her own fascination with cyber security.

"The course covered such a broad area I felt it could take me anywhere," she says. "My assignments included things like writing intelligence briefs to a government department; really practical training directly related to real-life work."

She doesn't have an IT background but says that hasn't held her back in cyber security. "The course gave me this really holistic view."

Many people think of cyber security as penetration testing – or trying to hack into a system to reveal weaknesses – but Iannantuono's role involves analysing other risks.

"We look at the leadership, the strategy, the governance, the roles the Board and the CEO play. We seek to understand where they are today and where they need to be in coming years, and what they should focus on. Through this we can get a really solid assessment of a company's cyber security."

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