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IDENTIFYING FACTORS THAT INFLUENCE THE USE OF DARK WEB CRYPTOMARKETS: QUALITATIVE INTERVIEWS WITH CRYPTOMARKET USERS

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Abstract

Dark Web cryptomarkets represent a phenomenon in modern criminality and their study is of key importance to contemporary criminology. This study aims to identify factors that influence the use of cryptomarkets and to gain further insight into the opinions and experiences of their users. The aims of the study were achieved by identifying multiple cryptomarket users through snowball sampling and conducting a series of semi structured interviews. Users described quality, anonymity and harm reduction as major influencing factors of their cryptomarket use. Participants displayed the qualities of a rational consumer orientation and explained that their use of cryptomarkets was linked to social experience. Technological skill was identified as not being a barrier to the access and use of cryptomarkets for users as the majority of users in the study were instructed by a cryptomarket mentor. The conclusion of the research identifies that the modernisation and mirroring of legitimate website by cryptomarkets has an effect on the perceived legitimacy of the sites for the user and in turn acts as an influencer of their use. It is predicted the rapid expansion of cryptomarket populations in the near future, and that cryptomarkets pose a major challenge to UK drug policy.

Keywords: Cryptomarket, Dark Web, Crypto-legitimation, Cryptomarket Mentoring, Online drug use.

Introduction

Most people have some understanding of the scale of the internet, but only through the prism of what academics refer to as the surface web. The surface web refers to any web pages that have been indexed by search engines. Conversely, it is estimated that over 96% of the internet is not accessible through the use of these search engines and therefore never seen by the vast majority of users (Epstein 2014). This unindexed content is often referred to as the Deep Web (Bergman, 2001). The Deep web is made up of extremely diversified

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content, including; content that is only accessible through private networks such as corporate and academic databases; private messaging boards and forums; websites locked behind a paywall and non-publically accessible private social media content. A small portion, or subset, of the Deep web is known to some as the Darknet or Dark Web. The Dark Web is content that is only accessible through anonymising software that hides the IP of the users (Barratt & Aldridge, 2016). Software such as The Onion Router, or TOR, have the ability to hide a user's identity online and provide instantaneous anonymous communication with relative ease of use (Dingledine, Mathewson & Syverson, 2004). The Dark Web has provided key locations for numerous criminal and deviant activities, such as; terrorist forums; illicit pornography (Children, violence and animals); assassination services; finance fraud services; live stream murder forums; hacking services; the sale of narcotics and weaponry all hidden behind the cloak of anonymity (Moore & Rid, 2016).

There are several different terms used by academics to define the anonymous sale of drugs on the Dark Web: Darknet marketplaces, Dark Net Market and Cryptomarket (Martin, 2014). The phrase "cryptomarket" was first coined by users on hacking forums and has been used by many scholars to describe these anonymous markets (Martin, 2014). Barratt and Aldridge (2016, pg.1) stated:

"We define a Cryptomarket as a marketplace that hosts multiple sellers or 'vendors', provides participants with anonymity via its location on the hidden web and use of cryptocurrencies for payment, and aggregates and displays customer feedback ratings and comments".

Rather than simply being the transition of a crime into cyberspace, a cryptomarket is an extremely complex computer assisted system whereby an individual trying to sell drugs can act as a "vendor" on a host site, not dissimilar to that of legitimate sites such as Amazon and eBay (Barratt, 2012).

This study was primarily derived from the conclusion of Barratt and Aldridge's (2016) study: *"Everything you always wanted to know about drug cryptomarkets* (*but were afraid to ask)"*. Barratt and Aldridge stated that the studying cryptomarkets is of critical importance to criminologists and that there are multiple research questions that need to be asked in order to greater understand the depth, scale and uptake of use of Dark web cryptomarkets. This research aimed to address a number of questions following their work: What is the progression that leads individuals to become involved in cryptomarkets? How easy is it to become a cryptomarket user? Are the influencing themes of quality and anonymity universal to cryptomarket users? What are the processes that cryptomarket users deploy in order to achieve the maximum potential of their use? Are there factors that have been overlooked or

over-attributed to influence the use of cryptomarkets? Are there factors of influence that have been missed by previous studies? What are the opinions of cryptomarket users as to UK drug policy and the future of cryptomarkets?

A series of semi-structured interviews with active cryptomarket users were conducted. This qualitative method provided the dynamic ability to change the course of the study dependant on new data that became available during the process of data gathering (Birks & Mills, 2015). Many studies that have researched cryptomarkets have primarily used secondary data of forum conversations on both cryptomarkets and legitimate sites (Barratt & Aldridge, 2016). Face to face qualitative interviews allow a researcher to gain a detailed insight into the interviewee's point of view and the interviews structure can often lead to new information or a differing perspective being revealed that had previously not been considered (Bryman, 2015). Instead of using a rigid interview schedule, a series of themes taken from the literature were used to forge questions during the interview but there would always be the emphasis on trying to gain more information by allowing the participant to lead the conversation wherever possible. Participants were instructed not to take part in the interview while under the influence of drugs, similar to the guidelines given during Van Hout and Bingham's (2016) qualitative interviewing of forum users.

The most appropriate sampling method to get face to face contact with reclusive groups appeared to be snowball sampling. Atkinson and Flint (2001. pg.1) stated: *"Although they violate the principles of sampling, the use of snowball strategies provides a means of accessing vulnerable and more impenetrable social groupings."* To begin sampling, enquiries were made with peers who suggested knowledge of cryptomarket users among their social groups. If a suitable participant was found, the initial peer was used as a proxy to inform the user that I was looking to contact the identified cryptomarket user to be used as part of a study and state that all interactions were protected by anonymity. During this process, six individuals who used the dark web cryptomarkets came forward. Direct contact was then made through the use of encrypted communications with potential participants. During this initial contact the aims of the research were explained in detail and the offer to participate in an interview was made. Four agreed to take part and two declined the offer, citing personal safety as their reasoning for not wanting to take part in the study.

The study involved interviewing participants who were involved in conducting illegal activities which are in breach of UK Law, research involving these individuals is done so in order present a contemporary picture of illicit behaviours which will then go on to inform

contemporary criminology (Ancrum & Treadwell, 2016). Maintaining the anonymity of the participants was key to their involvement in the study. As with other studies that involve participants who are involved in current criminality, protecting participants' identities is not just an ethical necessity but a core principle of the study (Treadwell, 2011; Ancrum & Treadwell, 2016). To ensure the anonymity and protection of the participants, pseudonyms were used, and all data was destroyed following completion of the research.

1 Literature Review

The Silk Road and Emerging Illicit Markets

The Silk Road, the first mainstream cryptomarket, was established in 2011 under the administration of a person identified as The Dread Pirate Roberts. Users found the Silk Road easy to navigate as the site allowed them to view numerous drug variations under the pages categorisation system. Payment was made by using the crypto-secure currency Bitcoin, making all purchases untraceable to agencies monitoring transactions (Barratt, 2012). The Silk Road allowed users to rate the vendors for the quality of their product and the conduct of the vendor, leading to the dominance of several notable vendors on the site (Van Hout & Bingham, 2013). The revenue stream of the Silk Road had been estimated to be in the region of \$22.8 million in 2012, just after the site had begun to streamline its contents, moving weaponry to a sister site: "The Armoury" (Christin, 2013). After the capture of The Dread Pirate Roberts, identified as Ross William Ulbricht, by the FBI in 2013, it was revealed that the Silk Road had earned \$1.2 Billion between 2011 and 2013 (Greenberg, 2013).

After the closure of the Silk Road in 2013, a multitude of new cryptomarkets filled the hole in the online Dark Web narcotics market (Buskirk et al, 2017). In January 2016 it was estimated that the global revenues of cryptomarkets were between \$12 and \$21 Million per month. It should be noted that "offline" drugs purchased from conventional sources in Europe alone was estimated to have reached \$2.1 Billion per month. The UK is considered to have the second largest market within cryptomarkets, accounting for 16% of all online sales, behind the USAs 35% (Kruithof et al, 2016). While the sales of drugs online is a small percentage compared to that of more traditional drug sales, there is clear evidence that there is a high demand for cryptomarkets in the UK. Evidence from academic studies has indicated that the average cryptomarket user appears to be: male, white, English speaking, mid-twenties, highly educated, full/part time employed or currently studying at higher education institutions (Kruithof et al, 2016; Van Hout & Bingham, 2013; Barratt, Ferris & Winstock, 2016). 98.2% of transactions on cryptomarkets were for small amounts of drugs, which accounted for 75% of

total revenue (Kruithof et al, 2016). An analysis of The Global Drug Survey conducted in 2014 found that drugs most commonly obtained from cryptomarkets were MDMA, Cannabis and LSD (Barratt, Ferris & Winstock, 2016), similar to findings that Cannabis, MDMA and powdered cocaine were the most commonly purchased drugs in the UK (Home Office, 2013).

Quality and The “Drugs Connoisseur”

Drug quality can have a number of different meanings depending on the user. Quality of an illicit substance can refer to: the chemical purity, effective potency, predictable effect, security of supply, financial value of purchase and reliability (Bancroft & Reid, 2016). Research involving users who purchase illicit substances offline indicate that they are often unsure how to gain predictable and consistent drug quality, and are generally reluctant to question their drug dealers about the quality of their purchase as dealers are often seen as an unreliable source of information (Best et al, 2004). Offline markets typically gauge quality through repeated transactions, shared culture and the sharing of information about the market through social groups wherever possible (Dwyer & Moore, 2010). Cryptomarket users identified quality as one of their major priorities when purchasing of the Darknet (Bancroft & Reid, 2016). Vendors on cryptomarkets state the quality of their product to advertise online, listing the different attributes and qualities of their products. Vendor’s claims are then evaluated in reviews via a comments section run by users who have purchased from the vendor, this is in order to give a guide for other potential buyers (Buxton & Bingham, 2015). This desire for quality, and the detailed scientific knowledge of the illicit substances amongst cryptomarkets users was identified by Van Hout and Bingham (2013) as the “Drugs Connoisseurs”. A study to test the purity of drugs purchased from dark web sites and offline street dealers found that illicit substances from cryptomarkets were far more likely to contain the advertised product and have a much higher purity than substances gained through offline transactions (Caudevilla et al, 2015). Bancroft and Reid (2016) found that cryptomarket users had indicated that they expected reliably high quality from their online purchases and used the term “Street Quality” to refer to the lowest quality products. Users commented:

“Although it is possible to obtain good quality products in the off-line markets, it is not possible to do so reliably or as cheaply” (Bancroft & Reid, 2016, Pg.44).

The level of confidence in the products on cryptomarkets can also be attributed to the professional business approaches of cryptomarket vendors, who use; professional advertising; communication with customers; competitive pricing; attractive stealth techniques

and a presence on Darknet forums as ways of securing a reliable customer base (Van Hout & Bingham, 2013).

Harm Reduction

Drug markets are notoriously violent and turbulent in nature. Within these offline markets there is expected to be an element of intimidation and potential violence, as the risk of losing profit to: unsecure transactions, theft of product, or violence against them is too high for many dealers to risk (Bean, 2008). Cryptomarket users who have used street dealers and friends as an alternative source of narcotics have expressed that when using these Darknet sites they receive less threats to personal safety, experience fewer acts of physical violence from dealers and were reported to the authorities less (Barratt, Ferris & Winstock, 2016). While Cryptomarkets are seen to be used as a method of reducing potential harms for their users, Darknet markets are not without their own risks. Although customer feedback is encouraged, vendors can scam customers by receiving the payment and claiming that the shipment had been lost on route to them, or take money for users and then close down their page. Alternatively, a vendor with a good reputation can be irrevocably damaged by a customer who states they had never received the shipment and threaten to ruin the vendor's reputation (Tzabetakis et al, 2016). Aldridge and Décary-Héту (2016) found that users were at risk of; having their personal information revealed: blackmail; theft of money or identity; fraud and even cyber bullying. But despite of these unique conflicts, studies have found that the communicatory nature of cryptomarkets allows for a unique community ethos to be created, and it is this community of users working together to prevent scamming, give advice, tell stories gives an insight into the social construction of these markets (Van Hout & Bingham, 2013).

Anonymity, Authorities and Accessibility

Clough (2015) identified a number of factors that have made cyberspace so appealing to the 21st Century cyber-criminal, namely: global reach, anonymity and the absence of capable guardians. The anonymity of the internet, and associated encryption software, gives compelling motivation for criminals to engage in cyber-criminality with the assurance that they have been protected from interception by law enforcement. Cryptomarket vendors and users state that they use the Dark Web to dramatically reduce the risk of being identified and caught by the authorities (Aldridge & Askew, 2017). Cryptomarkets provide anonymity to a user's transactions with a platform on software that helps prevent detection by law enforcement, but the edition of encrypted communication and a crypto-secure payment system allows cryptomarket users to feel safer making transactions compared to that of an

offline transaction (Barratt & Aldridge 2016). Clough (2015) argues that the lack of capable guardians to detect and prevent criminal activity, mainly failures of law enforcement agencies, is a major influence on the behaviour of offenders who use the internet to commit crime. The global reach that the internet provides has added a transnational element to criminal enterprises which has created a new paradigm for international criminality. Some cryptomarket vendors take the risk of shipping their drugs internationally, but research shows that vendors who were living in countries with wealthier populations, were not willing to take the risk due to the perceived effectiveness of the law enforcement agencies at intercepting their packages in transit when they had a reliable and stable market within their own nation (Décary-Héту et al., 2016). Vendors on cryptomarkets tend to be a mix of professional drug dealers mainly dealing offline, who have close ties to their distribution chains but see cryptomarkets as a source extra revenue and a potential means to purchase higher quality drugs for their offline distribution; and so called “newbies”, cryptomarket users who may have only ever been selling to their friends and have begun to branch out their new business as an alternative source of revenue (Barratt, Ferris & Winstock, 2016). It is this combination of a new virtual markets and methods of sourcing “quality” drugs that can be sold both online, offline, or shared among their friendship groups that makes Cryptomarkets enticing to vendors (Barratt and Aldridge, 2016).

2 Findings and Discussion

Cryptomarket Mentoring

The first line of questioning was aimed at understanding how participants first became active users of cryptomarkets and the influences that drove them from offline dealers to online markets. Van Hout and Bingham (2013) found that users first gained access to Dark Web markets through their own research on websites and other forms of media, such as television. Only one participant had learned solely via this method and stated that he was part of a group who had discovered cryptomarkets by viewing legitimate media such as VICE News, Reddit and general Google searches. Three of the participants stated that they had first gained knowledge of the benefits of Dark Web drugs markets from a close friend, or mentor, who was a cryptomarket user. The mentor and participant would begin by discussing perceived differences between offline and online drug purchasing:

“One of my friends uses it, and he was explaining to me how he gets his stuff. Which is a much higher quality for a better value for money, and that’s how the idea first came into being really” – Tom

Discussion of Dark Web markets then led participants to question their drug purchasing habits. Four common themes were identified as the initial drivers of the participants moving to cryptomarkets: price difference between offline and online purchases; the increased quality of substances; greater protection from the authorities; and a perceived failure, or distrust, of offline dealers. The mentors would then give the participants advice and guidance on how to use the markets:

“The guy I was working with, he was actually Polish about 17 and he was talking to me about it. And at the time it was about £45 a gram [MDMA] and he was buying it in for 20 quid. Me and my friends were about to go to a gig, and erm, that was really the catalyst for “Right let’s get some cheap MDMA”. And he showed me how to do it, he set me up the VPNs, the TOR browsers, the onion browsers, the website names” – John

While Charlie was the only participant to have learned of the existence of cryptomarkets through media exposure, he was still instructed in its use a more technologically skilled member of his peer group. A Cryptomarket Mentoring process appears to have a sizable effect on the uptake of cryptomarket use.

Online Quality

Participants repeatedly made comments about the quality of the drugs that they were purchasing. Whenever the subject of quality was being discussed during the interview, I asked the participant to explain what drug quality meant to them. Participants gave answers similar to that of the research by Bancroft and Reid (2016), that “quality” of a drug was centred around purity, potency and predictable effect. Participants were quick to point out that their notion of quality was more nuanced, and the notion of quality varied for personal preferences:

“I simply look in terms of purity. Purity is my quality. If I’m buying MDMA I know I want it 93% pure because that’s my mark for high quality. That is pretty much top quality. Cocaine I don’t mind as long as it doesn’t get below 80% or 75% ‘cause someone could have cut it with speed and not everybody loves speed for some reason” – John

“It really depends on what drug. So, for cannabis what’s good for cannabis? It’s high THC content, that’s good cannabis, you can usually tell by looking at it.... MDMA again is based on how much MDMA is in it, so a good purity is probably 80 plus percent and bad is under 60 because you don’t know what the other 40 percent is cut

with. If you buy it online, it is usually cut with... I don't know. I'm not sure but 85% is good, so 15% of whatever else" – Romeo

This attitude depicts the themes of the Drugs Connoisseur (Van Hout & Bingham, 2013), the user's attitudes towards seeking higher perceived quality that conforms to the personal standards of the consumer. Users who are identified as drugs connoisseurs display detailed chemical and practical knowledge of substances that they are purchasing. While none of the participants were directly asked if they had felt connoisseurial, their responses indicated that they followed the same lines of thinking as that of the Silk Road users.

Tom and John both stated that they use cryptomarkets as a reliable source of illicit substances that were safer than the street alternatives. Both participants stated that they had purchased drug testing kits from the Dark Web to test purity of products they purchased online. John admitted that in the previous year he had been a small-scale drug dealer who was purchasing off the dark web to aid his offline distribution chain. He stated:

"When the MDMA is in crystal or rock form I'm generally alright but one turned up Black, which I have never had before, but if it is very thin then you know it could be cut with anything, so I will get out a kit and test it. It's a safety precaution, a fiver for a 3-pack tester kit and you get to test 3 samples... A lot of the vendors and pages will say what purity the drug is at face value and if you get the tester kits then you can check that quality" - John

Using testing kits to accurately check the quality of the product he was going to be selling shows the business acumen and entrepreneurial action that Barratt and Aldridge (2016) had stated was a trait of cryptomarket users. However, he was using testing kits as a safety precaution rather than a tool of business. A similar drive to test the contents of the drugs he would be using was identified by Tom. Whilst we were discussing drug quality, Tom produced three bottle of drug testing reagents and explained:

"I'm more focused on not putting bad stuff in my body that I'm not wanting to, so it's more for personal safety. I'm quite health conscious about it... These are the reagents, it's kind of a cross referencing system. I have this chart to compare the reaction too. So, you just add it then you can cross reference the chart and see what they have put into it. Especially the stuff that could really hurt you" - Tom

The use of testing kits to confirm purity of drugs purchased on cryptomarkets is a method of harm reduction. Wanting to purchase from cryptomarkets for purity is one driving factor, but

the intent of preventing personal harm is clearly an influencing factor for their use of the Dark Web markets. Participants valuing the reliability of substances, in reference to safety, is an example of harm reduction also seen by Van Hout and Bingham (2013) in their analysis of Silk Road users. Harm reduction tactics of purchasing substances of a higher purity was also seen in participants who did not indicate that they used testing kits but both cited that the overall increased purity and lack of contaminations in the drugs they purchased as a major influencer.

The Price of Quality

The total amount of money spent on cryptomarkets by participants varied. The lowest spending user, Romeo, spent £200 - £300 in his 8 months using cryptomarkets. The highest spending participant was John, who stated that he had spent £1700 - £2500 during his cryptomarket use. Participants suggested that whilst individual drugs offline may be cheaper than those found online, drug quality and purity had not been factored into the price difference gram for gram:

“You looked shocked when I was talking about 25 ecstasy tablets not being expensive but offline that would probably cost a couple of hundred pounds whereas I spend £60. Especially when you to factor in the purity and the quality of it. So, I know someone in [Redacted] who sells a gram of ecstasy for £40 and that gram on MD will be about 30% pure, so really it is around £120 for a gram which you could buy for about £10 online” – Tom

“On the streets I would say it is slightly more damp [Cannabis]. It’s been rushed through production. Whereas on the Darknet it has been perfectly cured, it’s completely dry and it has less imperfections. You’re paying for the actual weight of the weed and not the added water weight” – Charlie

Participants were always quick to condemn both quality and pricing of the drugs sold by offline dealers. They displayed distrust towards the contents and market value of the drugs sold by the street dealers, and stated that price was a heavy influencer in their decision making; this behaviour was evident in other studies (Barratt, Ferris & Winstock, 2016; Van Hout & Bingham 2013). The demand for higher quality goods at affordable, or at least competitive, prices in comparison to “Street Quality” alternatives also demonstrated the mirroring of consumer values found in cryptomarket users by Bancroft and Reid (2016) who described cryptomarket users as having a rational consumer orientation.

Drug Availability and Niche Markets

Participants referenced the high number drug variations found on cryptomarkets as a factor that influences their purchases. Whether it be differing strains of cannabis, or different brands of MDMA, participants often boasted about the immense range and variation available to them. An example of this behaviour was stated by Charlie:

“I, like, even go to the gym stoned. I will smoke a spliff and then go to the gym and only certain strains I can do that with, like some strains I can have with a cup of coffee so stuff like that. I do go looking for some strains that I like you know and Dream Market has so many different strains it is insane” - Charlie

The sheer volume of drug types and variations online is a clear draw for Dark Web users (Barratt & Aldridge, 2016), but also provides a location for rare or difficult to access substances. When asked about the variation in the quality between street psychedelics and those purchased online, Tom stated:

“I suppose psychedelics is a whole other discussion as because street dealers rarely ever sell them. I’ve spoken to dealers who don’t even know what 2CB is, I’ve never really, I think I’ve come across one person in my life who sold Acid on the street. So that is another thing, availability, you go online, and you can find literally anything you want. Otherwise there is no real access to psychedelics on the street” - Tom

Tom had also stated that he had sourced a number of uncommon drugs from his dark web use, notably: Ketamine, GBL, 2CB and Mescaline. Cryptomarkets may therefore fill a niche hole in the wider drug market for gaining access to high quality and rarely seen psychedelics that users would otherwise not have access to from street dealers.

Group Purchasing and Social Supply

The drugs that were most commonly purchased by the four participants were: Cannabis, MDMA, LSD and Cocaine, similar to Barratt and Aldridge (2016) who found that party drugs are the main purchases on Dark Web markets. The majority of participants stated that their current purchasing habits were sporadic, and that purchasing drugs off of the dark web were generally planned ahead of time. This planning period before a cryptomarket purchase gave users the view of their cryptomarket purchases as a personal treat or for special occasions, such as birthdays and festivals:

“I just bought online with my friends. Well it’s more like a gathering. “What do you want for the festival? What do you want?” Etcetera and everybody will say exactly what they want. One big order on the dark web and 5 days later it comes through your post box and you say, “that’s for you” blah blah blah, Simple as that. Mate it’s

like a group activity. We all sit round a computer, it's like "Which drugs do we want" – Romeo

Participants have given insight into some of the purchasing habits of cryptomarket users. Users announce that they are about to make a purchase off the Darknet to their drug using social groups, and the group coordinates a list of drugs and arranging monetary transactions. This practice of social supply is typical of a closed drug market (Barratt, Ferris & Winstock, 2016) must therefore also be a factor that is considered by Dark Web users. Participants also indicated that this type of group transaction commonly occurs in preparation for an event, where an acceptable amount of time left between that of the order and expected delivery:

"Oh, I plan well in advance. Say this Friday, there isn't going to be enough time to order so I will just say fuck it and drink some alcohol, err, but if in like three weeks there is band or a really good DJ that's playing here I would be like "Yeah maybe, I may go all out on this night out" you know? "I may go get myself some drugs for this one". If, you know, it is very impromptu night and you didn't know you were going out until two hours before it would be impossible to use the dark web. It's not a "That very day" sort of deal, you would have to go to street dealer which isn't all that bad but it's not preferable" – Romeo

This delayed drug deal was described by Aldridge and Askew (2017) as a deal stretched across time meaning that the user understands that there will be a reasonable delay between order and delivery of the drugs purchased. The deal being stretched across time is an influencing factor for the users when they are considering making a purchase. If the user does not have time, or becomes impatient, then they move offline for their particular need. Implying that Dark Web drug deals are more considered and organised rather than spontaneous forms of online shopping.

Stealth Deliveries

Another notable topic of conversation during the interviews was about the methods by which drugs arrived. Participants stated that illicit substances generally arrived in inconspicuous envelopes, vacuum sealed and covered in metallic foil to prevent detection from x-rays. Participants became energetic and enthused when talking about unusual methods that online vendors used to deliver drugs:

"I've had some funny ones. Got some Acid that claimed to be from a London based Buddhist group, which was funny. One of my friends, who was the guy who

introduced me to the Darknet, got me some mescaline but when it arrived it was placed inside the Communist manifesto. It can vary and that's one of the funniest bits about it really. The surprise of how it arrives" – Tom

"Good stealth means the dealer send out packages that don't tend to get caught, things like that. I've had stuff delivered in DVDs, CDs, in packs of cards. I had one come in like a little Lightbulb, unscrewed the little base and the MDMA was in the bottom of it. Unbelievable stealth" - John

The hidden nature of how the packages arrive is key to the decision making of participants, as it is seen as the most vulnerable stage of the purchasing process, all participants claimed to only purchase drugs on the dark web markets in small quantities so as to lower the risk of detection from authorities. They stated that vendors who advertise for their stealth tactics are prioritised as a reliable vendor (Van Hout & Bingham, 2015; 2016). Participants felt they were partaking in intelligent and safer forms of drugs transaction. John made a notable comment about the value of stealth and delivery methods to cryptomarket users:

"Sometimes it is ridiculous. I've literally been sitting in the living room with my friends watching the door and saying, "I'm waiting for my drugs to be delivered by me dealer in a second" and they're like who? And this postman comes straight through the door and give me an envelope it's ridiculous. I said to my mate "My dealer is the Postman", Yeah my dealer is Postman Pat" - John

Community or Consumerism?

As many other qualitative studies have shown that the review system is a core factor that influences users (Bancroft & Reid, 2015, Van Hout & Bingham, 2013, Barratt & Aldridge, 2016). All participants cited that reviews left by previous users on a vendor's page were an essential instrument that allowed them to assess the quality of the vendor and prevent purchasing from scammers:

"So, say a vendor has a thousand feedback entries, you can click on them and they may say "Good guy, will get it to you in a couple of days. Great weed, blah blah blah". And then based on that I will make my decision on whether to buy it or not. So, it's as simple as that really. If people were scamming or botting it, then they would not get good feedback from it. It's quite a sophisticated system" – Romeo

Participants stated that the use of reviews is an integral and essential component of a functioning cryptomarket, and that the review system heavily influenced purchasing habits.

Van Hout and Bingham (2013) found that markets had a community ethos and that users had a sense of belonging to an online community, who felt part of a large group of drug users who shared advice, stories, experiences, prevented fraudulent activities such as exit scams and other general interests. This sense of community was identified by Tom and John, who stated they were active forum members and felt heavily attached to the communities of their individual markets and that cryptomarkets would not function without the larger community:

“It’s definitely very community orientated. A customer base implies a sort of impersonality, like on Amazon. It translates into a community feel because people are looking out for each other and saying, “I got scammed and even though you are a stranger I don’t want you to get scammed as well”. So, it is a very friendly atmosphere you could say” - Tom

Van Hout and Bingham (2013) identified a community ethos by collecting data from forums and conducting interviews with forum users who were active on forums. Charlie and Romeo, stated that they were not active forum members and did not identify as being part of a community. Instead they stated that transactions on cryptomarkets were more akin to an impersonal transaction on other market websites, such as Amazon:

“I’d say it was more like Amazon. At the end of the day everyone is there to make money. It’s not a community. I’m not linked to any of it. My community are the guys I chill and smoke with, not some stranger online” – Charlie

“Would you describe eBay as a community? I don’t think it is compact enough for it to be a community, it’s more just like Amazon. It’s more of an Amazon review section than Reddit. eBay is easily the closest thing I can compare it too” – Romeo

The impersonal experience of cryptomarkets can be compared to the consumer impersonality that is seen by Goldman’s (1982) research into local grocery stores being replaced by large corporate shopping chains. The drugs market transitioning online is comparable to that of the modernisation and transformation of traditional systems of small one-line food stores, which were considered costly and had inefficient distribution of food items (Goldman, 1982), into the formation of one-stop and shop superstores. This modernisation can be seen in the willingness of cryptomarkets to copy the designs and typography of successful legitimate consumer web-markets. As previously referenced, participants found cryptomarkets appealing as they were easy to navigate, similar to my own exploration of the AlphaBay cryptomarket. Some users describe competition between sites:

“Hansa is the best one. The pay system is much better than other sites and there are fewer scammers and it is a much better interface. Like, you can tell AlphaBay has been made by Russians, whereas if you go on Hansa it actually looks and feels like a legitimate website. Not really legitimate but a nicer user interface if you understand?”
- Tom

Perhaps there is a larger group of cryptomarket users with a one-stop and shop approach. These non-vocal, non-forum users could not have been included in the model of the markets social construction (Van Hout & Bingham, 2013). While there definitely are feelings of community amongst users, the size and scope of this potentially silent majority needs to be examined further to better understand the potential popularity of cryptomarkets and their driving influencing factors.

Questions of Anonymity and Confidence

The anonymity provided by cryptomarkets and associated software has been cited as an influencing factor for cryptomarket users (Aldridge & Askew, 2017; Broséus et al, 2016; Barratt & Aldridge 2017). All participants stated that they felt more secure against detection by law enforcement when using cryptomarkets and the Tor browser, which is comparable to the findings of similar studies. Charlie and Romeo both used pseudonyms and sent the drugs to their university address or a house belonging to a confederate. On the contrary, when asked about how they had drugs sent to them, Tom and John stated that they used their real names and current addresses when asked for delivery information:

“I use my real name and address. It doesn’t make sense to me to use a pseudonym to be honest. I know there would be no evidence on me to prove anything because Thales and encryption and so on. It really reassures me that all this is helping me not getting caught by the authorities” – Tom

“I would never use a fake name either because that would just look more suspicious than my name because if they catch something at the post office. I’ve read on forums that it is better to give your actual name as if the post office ever catch something then you will get in a lot of trouble because that name will not come up as registered to that house and you can get done for using a fake name or something. I mean it is the Royal Mail, come on, they are not the right company to look for it. They wouldn’t know where to start” – John

Tom and John stated they had little fear of being caught by the authorities as they perceived agencies associated with potentially detecting their packages as being unserviceable. The

realisation that cryptomarket users give out their real details strikes in the face of using a system that is touted for its anonymity. Both participants reasoned that giving out their personal information was to allow for a smooth transaction between themselves and the vendor. Perhaps this was a sign of trust between vendor and consumer, or as the participants saw it, a simplified method by which to receive drugs promptly and efficiently. Neither participant had had a package intercepted by the authorities, they stated that it was the use of reviews and the procurement of reliable vendors who used good stealth techniques to achieve this. Décary-Héту, Paquet-Clouston, and Aldridge (2016) concluded that vendors were less willing to ship internationally for fear of interception by effective drug prevention agencies, and prefer to sell within their own nation where the authorities are seen as ineffective. This lack of intervention is an example of what Clough (2015) called absence of capable guardians, and speaks volumes about how cryptomarket vendors and users view the authorities in the UK. Whilst anonymity is indeed a factor that heavily influences use of cryptomarkets; users giving out and receiving drugs packages under their real names is an interesting manifestation of the confidence that cryptomarket users have in the process that they use, and an insight into their perceived capability of UK law enforcement.

Conclusion

This research aimed to identify core factors that influence use of cryptomarkets from perspectives of users themselves and to identify previously uncovered themes. The major themes from the literature have been affirmed. Quality is a core, if not the core, influencer of cryptomarket use. Purity, potency and reliable effect (Bancroft & Reid, 2016) are prioritised by users, including the self-preservationist inclinations of users (Van Hout & Bingham, 2013). The rational consumer (Bancroft & Reid, 2015) values of: availability, comparative pricing and quality are all traits that can be afforded to cryptomarkets users. The ease of access to cryptomarkets is astounding. None of the participants described themselves as being a *Tech savvy* computer user; commonly giving answers such as:

“No, I’m a bit useless with computers I’m not gonna lie. Like, I’m into the software, like the mechanics and some of its engineering, but mainly I’m good with the internet. I don’t know if I could be called tech savvy mate. It’s just not really my thing” – Charlie

Testimonials from the participants highlights the simplicity of cryptomarkets as a key factor influencing their use. Easily digestible media, and the Cryptomarket mentoring process experienced by participants, provides an ease of use which makes cryptomarkets very

attractive and accessible to potential users, even to those who have little technical knowledge or skill.

The markets themselves aid their own accessibility through the mirroring of legitimate online markets. The modernisation and mirroring of surface websites, or Crypto-legitimation, has the effect of distorting the user's conceptualisation of the Dark Web criminal markets as criminal. Participants described their experiences of using cryptomarkets as becoming mundane or routine. Some stated their own perception of the illegality of the sites soon became distorted:

"They look exactly like normal legitimate sites. You forget it's illegal when you are on it" – Tom

This distortion, or the legitimising effects of cryptomarkets appears to centralise around the ease of accessibility to the sites and the simplicity and speed by which a user can make transactions.

The confidence displayed by participants whenever discussing the possibility of being intercepted by authorities speaks volumes to their perceived security when using cryptomarkets. Review systems, professional stealth tactics of vendors and untraceable conversations and interactions with other users were all described as core influencers for participant's cryptomarket use. Whilst none of the participants stated that they were completely immune to detection, the perceived lack of capable guardians (Clough, 2015) has given the users of cryptomarkets an unshakable confidence in the systems and processes that they employ in their cryptomarket use. Another factor that appears to influence users is the social nature of cryptomarket use. At the beginning of the study, my mental image of the cryptomarket user was that of a solitary, isolated and introverted character. However, the participants of this study explained that their use of cryptomarket had social implications. While not all of the participants had seen the markets themselves as a community, or identified with that community, all of the participants stated some social reasoning for their use: creating orders in groups, distribution high quality drugs among friends and ordering as a treat for an event or special occasion. However, this result may be due to the sampling process that was used. Attaining participants for the study relied on members of their peer groups identifying the participants as cryptomarket users, which implies some social diffusion of the knowledge of their cryptomarket use, which may not be representative of all cryptomarket users.

A recommendation found from my experience with the participants, is that where possible, cryptomarket research should be informed with a greater number of face to face qualitative interviews. However, there are many well founded limiting factors to that regard. This study was also not without limitation. The restriction of a gendered bias and that pool of participants were limited to white British males from universities in the UK makes the results very difficult to generalise. Nevertheless, I found the four participants of the study extremely informative, giving very detailed descriptions of their cryptomarket use, accommodating in their availability and always ready to correct errors in my line of questioning.

Barratt and Aldridge (2016) asked the question: Do cryptomarkets represent the biggest challenge to the prohibition of drugs in the United Kingdom? Participants of this study stated that they believed they had the right to use substances that they believed were less harmful than other legal substances, such as alcohol, and expressed frustration at their implied criminality as a result of drug policy. Some even expressing disappointment with punitive drug policies at their Universities. While factors like quality and anonymity are influencers of the use of cryptomarkets, all of the participants stated that they would happily pay more for a legitimised version of the substances that they purchased on cryptomarkets.

“At the end of the day, I don’t see why the time spent by police officers for someone who’s got or selling a 10 bag of weed can do any real good for society. Like compared to alcohol which is legal, I find that is way more damaging overall. It’s a mess. I would happily pay more if weed was legal, you know?” – Charlie

As for the future of cryptomarkets, participants believed that the markets would continue to expand as the distribution of their knowledge permeates society.

“I think they will keep growing because as the markets are getting older. Their user base keeps expanding as the population of the markets gets older. You know the younger generations a more tech savvy, people who are 15 years old know how to get onto these sites. As the community grows greater in number, it grows greater in cohesiveness. The markets I use have never run so smoothly and will continue to do so” - Tom

As knowledge of these markets is spread, and the influencing factors are explained to potential users through either media/internet sources, or mentoring from a more experienced user, it is my opinion that the use of cryptomarkets will continue to expand. This expansion will be seen in both the population size of the markets, and in the revenue earned. Cryptomarkets represent a major challenge of drug policy in the UK, and their continued research is foremost into gaining greater insight of the depths of their influence.

References

- Aldridge, J., Askew, R. (2017) Delivery dilemmas: How drug cryptomarket users identify and seek to reduce their risk of detection by law enforcement. *International Journal of Drug Policy*. Available at: <http://dx.doi.org/10.1016/j.drugpo.2016.10.010> (Accessed 11 January 2017)
- Aldridge, J., Décary-Hétu, D. (2016) Hidden wholesale: The drug diffusing capacity of online drug cryptomarkets. *International Journal of Drug Policy*, Volume 35, September 2016, pp. 7-15.
- Ancrum C., Treadwell J. (2016) Beyond ghosts, gangs and good sorts: Commercial cannabis cultivation and illicit enterprise in England's disadvantaged inner cities. *Crime, Media, Culture*. First Published May 17, 2016. Available at: <https://doi-org.plymouth.idm.oclc.org/10.1177/1741659016646414>
- Atkinson R., Flint J. (2001) Accessing Hidden and Hard-to-Reach Populations: Snowball Research Strategies. *Social Research Update*, Issue 33, pp. 1-4.
- Bancroft, A., Reid, P. (2016) Concepts of illicit drug quality among darknet market users: Purity, embodied experience, craft and chemical knowledge. *International Journal of Drug Policy*, Volume 35, September 2016, pp. 42–49
- Barratt, M. (2012) Silk Road: eBay for Drugs. *Addiction*, Vol 107, Issue 3, pp. 683.
- Barratt, M, Aldridge, J. (2016) Everything you always wanted to know about drug cryptomarkets* (*but were afraid to ask). *International Journal of Drug Policy*, Volume 35, September 2016, pp. 1–6.
- Barratt, M., Ferris, J., Winstock, A. (2016) Safer scoring? Cryptomarkets, social supply and drug market violence. *International Journal of Drug Policy*, Volume 35, September 2016, pp. 24–31.
- Bean, P. (2008) *Drugs and Crime*: Third Edition. William Publishing.
- Bergman, M. (2001) White Paper: The Deep Web: Surfacing Hidden Values. *The Journal of Electronic Publishing*, Volume 7, Issue 1, DOI: <http://dx.doi.org/10.3998/3336451.0007.104>
- Best D., Beswick, T., Gossop, M., Rees, S., Coomber, R., Witton, J., et al. (2004). From the deal to the needle: Drug purchasing and preparation among heroin users in drug treatment in South London. *Addiction Research and Theory*, Volume 12, Issue 6, pp. 539–548.
- Birks M., Mills J. (2015) *Grounded Theory: A Practical Guide*. SAGE Publications
- Broséus, J., Rhumorbarbe, D., Mireault, C., Ouellette, V., Crispino, F., Décary-Hétu, D. (2016) Studying illicit drug trafficking on Darknet markets: Structure and organisation from a Canadian perspective. *Forensic Science International*, Volume 264, July 2016, pp. 7–14.
- Bryman, A. (2015) *Social Research Methods*. Oxford: University Press.
- Buskirka, J., Brunob, R., Dobbinsa, T., Breena, C., Burnsa, L., Naickera, S., Roxburgha, A. (2017) The recovery of online drug markets following law enforcement and other disruptions. *Drug and Alcohol Dependence*, Volume 173, 1 April 2017, Pages 159–162.
- Buxton, J., & Bingham, T. (2015) *The Rise and Challenge of Dark Net Drug Markets*. Swansea: Global Drug Policy Observatory.

Caudevilla, F., Ventura, M., Fornís, I., Barratt, M., Ildanosa, C., Quintana, P. (2016). Results of an international drug testing service for cryptomarket users. *International Journal of Drug Policy*, Volume 35, Pages 38–41.

Clough, J. (2015) *Principles of Cybercrime*. Cambridge: University Press.

Christin, N. (2013) *Traveling the Silk Road: a measurement analysis of a large anonymous online marketplace*. Proceedings of the 22nd international conference on World Wide Web, May 13-17, 2013, Rio de Janeiro, Brazil, Available at: <https://arxiv.org/pdf/1207.7139.pdf>

Décary-Hétu, D., Paquet-Clouston, M., Aldridge, J. (2016) Going International? Risk Taking by Cryptomarket Drug Vendors. *International Journal of Drug Policy*, Volume 35, September 2016, pp. 69–76.

Dingledine, R., Mathewson, N., Syverson S. (2004) *Tor: The Second Generation Onion Router*. In Proceedings of the Usenix Security Symposium, 2004. Available at: www.dtic.mil/dtic/tr/fulltext/u2/a465464.pdf

Dwyer, R., & Moore, D. (2010) Beyond Neoclassical Economics: Social Process, Agency and the Maintenance of Order in an Australian Illicit Drug Marketplace. *International Journal of Drug Policy*, Volume 21, Issue 5, pp. 390–398.

Epstein, Z. (2014) How to find the invisible internet. *BGR*, Available at: <http://bgr.com/2014/01/20/how-to-access-tor-silk-road-deep-web/>

Goldman, A. (1982) Adoption of Supermarket Shopping in a Developing Country: The Selective Adoption Phenomenon, *European Journal of Marketing*, Volume 16, Issue 1, pp.17 – 26.

Greenberg., A. (2013) End of The Silk Road: FBI Says It's Busted the Web's Biggest Anonymous Drug Black Market. *Forbes*, 2nd October 2013, Available at: <http://www.forbes.com/sites/andygreenberg/2013/10/02/end-of-the-silk-road-fbi-busts-the-webs-biggest-anonymous-drug-black-market/#38187732347d>

Home Office (2013) *National Statistics - Drug Misuse: Findings from the 2012 to 2013 Crime Survey for England and Wales*. Available at: <https://www.gov.uk/government/publications/drug-misuse-findings-from-the-2012-to-2013-csew/drug-misuse-findings-from-the-2012-to-2013-crime-survey-for-england-and-wales>

Kruithof, K., Aldridge, J., Décary Hétu, D., Sim, M., Dujso, E., Hoorens, S. (2016) *The Role of the 'Dark Web' in the Trade of Illicit Drugs*. RAND. Available at: https://www.rand.org/content/dam/rand/pubs/research_briefs/RB9900/RB9925/RAND_RB9925.pdf

Martin, J. (2014). *Drugs on the Dark Net: How Cryptomarkets are transforming the global trade in illicit drugs*. New York: Palgrave Pivot.

Moore D., Rid T. (2016) Cryptopolitik and the Darknet. *Survival: Global Politics and Strategy*, Volume 58, Issue 1, pp. 7-38.

Treadwell, J. (2011) From the car boot to booting it up? eBay, online counterfeit crime and the transformation of the criminal marketplace. *Criminology & Criminal Justice*, Vol 12, Issue 2, pp. 175 – 191.

Tzanetakis, M., Kamphausen, G., Werse, B., von Laufenberg, R. (2016) The transparency paradox. Building trust, resolving disputes and optimising logistics on conventional and online drugs markets. *International Journal of Drug Policy*, Volume 35, September 2016, pp. 58-68

Van Hout, M.C., Bingham, T. (2013) Silk Road', the virtual drug marketplace: A single case study of user experiences. *International Journal of Drug Policy*, Volume 24, Issue 5, September, pp. 385–391.