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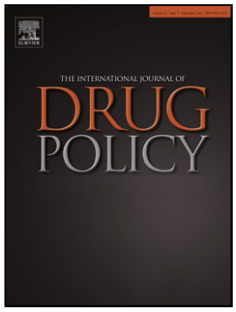

Title: The transparency paradox. Building trust, resolving disputes and optimising logistics on conventional and online drugs markets

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Title:

The transparency paradox. Building trust, resolving disputes and optimising logistics on conventional and online drugs markets

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Key Words:

drug distribution, cryptomarkets, conventional dealing, trust, violence, logistics

Abstract:

Background: In recent years, marketplaces in the darknet emerged where vendors and customers can exchange illicit drugs and other goods on digital platforms by using hidden internet services. The main thesis of this paper is that in an online environment, different practices for building trust and reputation emerge that stabilise market processes. ***Methods:*** Qualitative and quantitative data from a recent German project on conventional (offline) small-scale drug dealing as well as qualitative case studies on four online vendors operating on Agora market are used to explore alternative practices for building trust and reputation. They also explore the use of violence and logistics established on cryptomarkets in comparison to traditional dealing. To analyse the data we applied qualitative content analyses. ***Results:*** For conventional commercial illicit drug dealing on various kinds of markets, trust between buyer and seller is a crucial issue, often emphasized by restricting deals to well-known persons. While this typically includes face-to-face contact, the opposite is true with online drug trading. It is characteristic of cryptomarkets that the parties involved in a transaction know neither the personal identity nor the physical location of one another. This is realised by using aliases, anonymising software, and cryptocurrencies for payments. Violence typically only plays a role in traditional drug dealing, but mostly, if at all, just as a latent threat for potential rule-breakers. Processing a transaction anonymously includes escrow services for the buyers, which makes trading more reliable, although they cannot completely prevent scamming. Furthermore, online drug marketplaces usually offer a customer feedback system that allows customers to rate vendors and review products. A positive vendor feedback helps building reputation and trust in such an online environment. With regard to logistics, most conventional small-scale dealers restrict their acts of selling to private surroundings to

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avoid encounters with law enforcement. In cryptomarkets, the purchased drugs are delivered by traditional postal services, sometimes to false addresses or to someone else's name to conceal the identity and address of the buyer. ***Conclusion:*** On virtual drug markets practices of building trust, conflict resolution and logistics is constantly evolving. They offer improved security solutions on the one hand while on the other hand scamming and fraud seem to be widely used on both online and conventional drug markets.

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Introduction

The focus of this article is on comparing dealing on darknet marketplaces (DNMs) to conventional[1] drug markets. DNMs, also known as 'cryptomarkets' (Martin, 2014a; Barratt et al., 2014), use anonymising software (e.g., TOR, I2P) and encrypted communication (e.g., PGP). Therefore, the physical identities and locations of the users are concealed (Martin, 2014a). Vendors and customers can exchange (illicit) drugs and other goods or services on these platforms by using virtual currencies (i.e., Bitcoin) as a means of payment (Martin, 2014b). Although Bitcoin enables pseudonymous transactions, its embedded block chain can also be used for criminal investigation purposes (Tzanetakis, 2015a). Finally, 'professional-looking' shipments that contain drugs are delivered by traditional postal services without their knowledge (Christin, 2013; Van Hout & Bingham, 2013a).

Silk Road 1 (SR1), which started operating in February 2011 and was shut down by the FBI in October 2013, marked the beginning of innovative DNMs as outlined above with a wide range of psychoactive substances offered by vendors for selling (Chen, 2011; Van Buskirk et al., 2014). This was followed by increased media attention, disapproval by government authorities and law enforcement as well as increased interest of scholars publishing empirical research on different aspects of cryptomarkets (Barratt, 2012; Christin, 2013; Van Hout & Bingham 2013a, 2013b, 2014; Aldridge & Décary-Hétu, 2014; Barratt et al., 2014; Burns et al., 2014; Martin, 2014a, 2014b; Buxton & Bingham, 2015; Dolliver, 2015). While quite a few studies on DNMs are based on monitoring publicly available listings for sale (Christin, 2013; Aldridge & Décary-Hétu, 2014; Burns et al., 2014; Dolliver, 2015), only a few papers concerning cryptomarkets are qualitative inquiries (Van Hout & Bingham 2013a, 2013b, 2014; Martin,

[1] The terms traditional, conventional, offline, and physical drug distribution will be used to describe the type of dealing that most previous research is based on. Online, virtual vending on darknet marketplaces or cryptomarkets are terms used to describe a recent way of anonymous trading via anonymous communication and encrypted digital currency.

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2014a, 2014b). Christin (2013) found 24,400 unique listings being sold between February and July 2012 and in their analysis of all drug listings in September 2013. Aldridge and Décary-Hétu (2014) observed both a significant growth in the number of vendors and customers using SR1 as well as increased revenues.

However, Van Hout and Bingham (2013a) explored an active user's purchasing mechanisms, experience and motives within SR1; the relationship between vendors and customers was described as being shaped by trust and professionalism. In another visual and narrative analysis of users' motives, Van Hout and Bingham (2013b) concluded that the majority of SR1 users were male and in professional employment or tertiary education. A qualitative study also explored vendor accounts of SR1 as online trading infrastructure (Van Hout & Bingham, 2014). Van Hout and Bingham (2014) concluded that vendors have a professional approach to running their businesses on SR1 by providing a quality service to maximise their profits, professional advertising of quality products, professional communication and regular forum activity, competitive pricing, good stealth techniques, speedy dispatch of slightly overweight products and efforts to avoid customer disputes. Moreover, Barratt et al. (2014) analysed data from an anonymous online questionnaire with a sample of 9,470 participants based in the UK, Australia and the USA. Barratt et al. (2014) found that drug purchases were made on SR1 because the DNM offered a wider range of drugs, better quality, greater convenience when ordering online and reliance on vendors with high ratings. These findings are consistent with Van Hout and Bingham's (2013b) outcomes on users' reasons for accessing and using SR1. Although having different research approaches, Christin (2013), Van Hout & Bingham (2013b) and Barratt et al. (2014) all come to the conclusion that MDMA, cannabis, and benzodiazepines were among the most popular drugs purchased on SR1.

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While research on darknet markets is a relatively new phenomenon (as are the markets themselves), a lot of research exists for the area of conventional drug distribution. There is evidence about the general structures of the global trade (e.g., Reuter & Trautmann, 2009), mid-range dealing (e.g., Pearson & Hobbs, 2001), retail sales in hard drugs markets (e.g., Coomber & Maher, 2006) as well as among networks of recreational users (e.g., Jacques & Allen, 2014), including the phenomenon of non-profit-driven "social supply" (e.g., Coomber & Turnbull, 2007), to name just a few. In addition, conventional drug markets can be differentiated into "open" and "closed" markets (Coomber, 2015; Hough & Natarajan, 2000). "Open" markets (e.g., heroin street markets and ecstasy club markets) allow access to everyone and therefore it is likely that buyers and sellers don't know each other, while "closed" markets are only accessible for those who are already trusted (Hough & Natarajan, 2000, 4). Within "open" markets, dealers are more visible to potential customers as well as more exposed to violence. Due to the higher visibility, sellers are at greater risk of being arrested by law enforcement agencies (Coomber, 2015; Coomber & Moyle, 2013). DNMs for drugs can also be regarded as "open" markets, especially because this is defined by the "technical organisation" (Hough & Natarajan 2000, 4) of the market, although not all characteristics can be applied to DNMs, e.g. a higher exposure of violence. Moreover, conventional drug markets are highly differentiated in terms of time, space, and populations and show varying degrees of violence and trust as, for example, Coomber (2006, 2015), Reuter (2009), Hough & Natarajan (2000) point out. In sum, law enforcement agencies may have at least an idea of the identities of some types of dealers and their customers (Skolnick et al., 1990, Coomber, 2006). At the same time, data on supply and demand are generally rare, bureaucratic and most often based on estimations or seizures (e.g., for the German-speaking area: BKA 2014, .BK 2014), whereas the opposite is true for DNMs. On the one hand, by using anonymising and encryption software, market administrators, vendors, and customers operate relatively anonymously on the

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Internet. On the other hand, the infrastructure of DNMs allows the parties involved to publish quite detailed data on the various types of drugs, their price and perceived qualities, quantities sold, dates, shipping information and satisfaction of the customers. Having different information on supply and demand available on these two type of drug markets (conventional and DNM) is referred to as a transparency paradox (see conclusion).[2]

In this article, we explore differences and similarities between conventional drug dealing and online vending on DNMs. By using a qualitative approach (interviews and case study analysis), we describe practice and strategies regarding the use of violence, building trust, and logistics used for online and offline drug distribution. Finally, criminological implications for drug policies will be discussed.

Methodology and data

For the purpose of this analysis, data on conventional drug dealing come from the German mixed-methods (qualitative and quantitative) research project 'The Distribution of Illicit Drugs' (DDID; Bernard & Werse, 2013). The main objective of this project was to explore the profit-driven and non-profit-driven distribution of illicit drugs in socially inconspicuous settings. Socially inconspicuous means that respondents had to meet criteria for not being a marginalised problem drug user. During the course of the German project, 214 drug users were recruited via snowball-sampling and then interviewed, 169 of which had experience in drug distribution. Results showed that a substantial part of what would conventionally be understood as drug dealing has to be understood as "social supply", which means that it is not for profit, or as "minimally commercial supply"

[2] The possible connectivity of both kinds of markets is excluded from the analysis. Buying bulk offline and vending online, or buying bulk online and reselling offline is always an option for traders. However, the available data does not allow an in-depth-analysis of such connection between both forms of markets. Aldridge and Décary-Hétu (2014, 11) have estimated "that about 20% of the listings for the drugs we examined on Silk Road were aimed at buyers making purchases with resale intent". Nevertheless, it is unclear if these resales are done online or offline.

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(Coomber & Moyle, 2013), particularly among user-dealers whose main motivation is the funding of own drug use. Of 114 respondents who made clear statements about their motivation for participating in drug dealing, 32 reported a clear initial intention to make money. For the purpose of this paper, these profit-driven dealers are compared to vendors who sell drugs via darknet markets, using the key concepts of trust, violence, and logistics. The respondents chose their own pseudonyms.

Qualitative case studies (Yin, 2009) on four vendors were conducted to explore how and which alternative practice for building trust and reputation, the use of violence, and logistics are employed in cryptomarkets in comparison to traditional drug dealing. Data collection included customer feedback, profile pages of four vendors and forum chat material on these four sellers actively operating on Agora market. An acronym was used for each of the vendors to provide anonymity of the subjects involved. Data was retrieved in May 2015. Two of the vendors (see Table 1) chosen had a high seller rating, two had a low rating. For each ranking type, one vendor sells multiple types of drugs and the other one sells only one or two types of drugs. Moreover, three vendors chosen have a medium-range transaction history, the number of deals made varies between 200 to 300 and 300 to 500. The final vendor was chosen due to their high rate of sale; they made 2,000 to 3,000 successful transactions. Moreover, two of the selected vendors registered on Agora less than six months ago while the other two had registered over a year ago. The shipping areas of the four vendors cover domestic as well as international delivery. We set a clear focus on vendors from German-speaking countries. For vendors XOP, TPO and ZIV listings were found in additional marketplaces, some of them not operating anymore. Vendor TPO was also running their own online shop and selling illicit drugs. By selecting the four vendors, a variation of customer satisfaction, a different grade of trading experience and different types of

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trading were explored, while vendors with similar attributes were chosen to be comparable. The research is part of a larger on-going Austrian-German research project on online and offline drug markets.

We chose the DNM market Agora because it claimed to be the largest drug marketplace on the darknet when conducting the analysis in the first half of 2015 (Agora, 2015). According to its own specification, Agora had about 16,200 drug listings on May 1st, 2015. Thus, it had the highest volume of transactions, many scamming cases reported as well as presumably attention from law enforcement (LE) authorities (Deepdotweb, 2015a). Agora started in December 2013, offered centralised escrow (see later) and early finalisation (FE, see later) as modes of payment. Payments had to be made in the virtual currency Bitcoin. Price information on all listings was given in US Dollar or Bitcoin. Although the analysis focuses mainly on Agora market, examples of practice of trust and violence will be mentioned that were not implemented (e.g. multi-signature – see later) or did not seem to have arisen (e.g., doxing – see later) on Agora but are relevant for drug trading on DNMs in general.

INSERT TABLE 1 HERE

Both the empirical data from DNMs and the German DDID project on conventional drug dealing were analysed with qualitative content analysis (Schreier, 2012) in order to compare 'traditional' dealing with online vending. Firstly, a deductive approach was chosen and categories of trust, violence, and logistics derived from prior research conducted by Goldstein (1985), Adler (1993), Denton & O'Malley (1999), Pearson & Hobbs (2001), Thoumi (2003), Zaitch (2005), Buxton (2006), Werse (2008), Reuter & Trautmann (2009), Reuter (2009), Belackova & Vaccaro (2013) and

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Taylor & Potter (2013). Secondly, an inductive, data-driven approach enabled expanding the deductively developed categories by adding categories while going through the material of the German DDID project and the data on the four vendors on Agora market. Thus, new subcategories were added to the deductively developed categorisation when they emerged in the data sets. This way, all data was categorised.

Findings and discussion

Practice of building trust and reputation

While in this article, we discuss how types of trust and reputation are established differently online and offline, there is also a 'trust continuum' addressing the quality of trust and reputation. In a first stage, we analysed the material described above according to how trust and reputation are built within conventional drug dealing (Adler, 1993; Denton & O'Malley, 1999; Taylor & Potter, 2013) as well as on darknet markets. Hence, similarities and differences of practice for building trust and reputation are discussed below. A theoretical basis for our analysis of trust is provided by Luhmann (1988). He highlights the link between trust and risk: "Trust (…) requires a previous engagement on your part. It presupposes a situation of risk. (…) You can avoid taking the risk, but only if you are willing to waive the associated advantages" (Luhmann 1988, 97). This specific connection of trust and risk is the basis for our analysis of trust in drug dealing. Similarities and differences between online vending and traditional drug dealing will become understandable when examining the risks associated with both forms of drug trade, while the possible advantages are defined by earning money and / or reputation.

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Conventional drug distribution

Because of the risky nature of the drug trade, trust is a substantial factor (Werse, 2008; Belackova & Vaccaro, 2013; Taylor & Potter, 2013). Generally, this means: No trust, no deal, at least no stress-free deal, because risk refers “to expectations which may lapse into disappointment” (Luhmann 1988, 97). Therefore, trust is a reciprocal, interpersonal element of the relationship between the seller and the buyer of illegal drugs. It has to be built via direct contacts between both parties, with a high degree of caution on the side of the seller, due to the risk of law enforcement (LE) and the possibility of imprisonment, and a high degree of caution on the side of the buyer, with regard to questions of price and quality of the illegal product. These are the risks for the participants in traditional drug dealing that make trust necessary.

For private dealers who meet their customers face-to-face, building trust is rarely a matter of attempts to increase sales, and neither is it a question of acquiring more customers. Instead, trust is related to questions of money, quality, and security, because these are crucial factors in terms of risks. Additionally, trust is a substantial prerequisite of avoiding contacts with law enforcement, possibly the highest risk in drug trade. With different degrees of familiarity, analogous degrees of trust or even friendship emerge. The setting might also influence the degree of trust that is required for making a deal, especially when differentiating between “open” and “closed” markets. In opposition to both online vending and street dealing, private selling is often restricted to people the dealers already know. It is very unlikely that a private dealer will let strangers in or visit them in their homes. Several interviewees mentioned this. Thus, the dealers of the DDID-subsample are clearly identifiable as actors on closed markets.

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"…and that you look before opening [the door]: Who's coming now? And that you tell the people [clients]: Don't bring strangers in, please. (…) Don't bring strangers in. (…) you isolate yourself and, and, and you're only together with, err, with people sworn in" (Fruchtzwerg, 40 years, public servant).

This attitude towards staying safe restricts the way new customers are met. Mainly, they are introduced by those who are already trusted customers:

"So, here to this apartment came only people that I knew well, or persons who came on recommendation of close friends, that was okay for me as well. But only if friends had told me, you can trust this one." (Peter, 30 years, social worker)

This means that it is the dealer who calculates the trust-risk relation on his behalf. Not knowing someone means that the risk is higher than the level of trust, therefore the dealer "is willing to waive the associated advantages" (Luhmann 1988, 97). Nevertheless, trustworthy clients might be allowed to bring new customers, sometimes even without prior notice, because the dealers suppose the friend of a friend is trustworthy as well.

Dealers who also use the drugs they sell (which is the case for all 32 respondents in the subsample of profit-oriented dealers) might get incautious and act beyond their self-chosen restrictions, if they sell in a public setting.

"But once my girlfriend advised me: 'hey, don't scream that much in the club'. Because, when I was rolling, I spoke to people quite open and quickly [about drugs], like: 'hey, what's up, wanna buy 50 grams of speed?" (Cornholio, 33 years, business economist)

While we cannot answer the question here whether this is a typical example for club dealers or not, it is obvious that this kind of risk is not (or at least much less) relevant for sellers who restrict their business to private settings (see below), even if their mental state is heavily impaired by own drug use.

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Once gained, reciprocal trust can lead to forms of dealing that differ from the common money-for-drugs deal, for example drugs might be paid in advance, or drugs might be handed over without being paid immediately. In this case, trust does not only reduce the risk of being targeted by law enforcement but also weighs out the risk of possible acts of fraud and theft. This means that aspects of money and of means of payment are closely linked to the level of trust between the seller and the buyer. The same is true for quality issues. The generally low and variable quality of drugs on a black market imposes certain risks and therefore necessitates trust.

“It [trust] is very, very important. For me, it is important to trust the other person, because I know what can be used to adulterate the shit. On the other hand, it is very important for the seller, because he’s doing something illegal.” (Lumumba, 34 years, social worker)

The nexus of trust and risk determines if and how possible customers are served. Besides that, gaining reputation and a higher status within the peer group or circle of customers is appreciated by dealers and buyers in a way that it becomes part of their social roles, but it is not necessary in order to find new customers and increase sales and income.

Drug distribution on cryptomarkets

Looking at drug distribution practice on DNMs, a first fundamental difference to conventional drug dealing is the presence of an additional party to seller and buyer, namely the administrator of a particular marketplace (and their employees). In an online environment, the relationship between dealers and buyers is not bidirectional. Rather, a triangular relationship between vendor, customer and market administrator is established in order to do business and to avoid LE intervention. Moreover, cryptomarkets offer the technological infrastructure to cover the identities and locations of

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users. Trust between anonymous sellers and buyers has to be established by using means provided by the marketplace and via the third-party dispute resolution system that will be described in detail below. In contrast to traditional dealing, establishing trust on DNMs is a method for the vendors to increase both reputation and income. As Luhmann puts it: “Mobilising trust means mobilising engagements and activities, extending the range and degree of participation” (1988, 99). For trading drugs on DNMs this means two things, namely that by mobilising trust on the customers’ side the dealers try to attract new buyers, and complementarily that this reduces the buyers’ perception of risk of ordering drugs on the darknet from an unknown stranger. How trust is established between the seller and buyer is already known from the analysis of DNMs related to carding (Décary-Hétu & Laferrière, 2015). Carding involves the “unauthorized use of credit and debit card data for fraudulent purposes” (ibid.). It is closely related to illegal computer-hacking (as the source of the data for fraudulent purposes) and is mainly organised on specialised carding DNMs/forums and on DNMs selling other illicit goods as well, which are analysed here.

An initial effort of building trust and reputation on DNMs is the profile page of a vendor. It is a first source of information for a customer. On Agora market, it contains the user name of the vendor, an overall numerical satisfaction rating by customers (0 to 5), how many transactions have been completed by this vendor, when the vendor registered, when the trader last logged in and a verified indication if this vendor has been selling products on previous DNMs (the market administrator verifies a vendor after submitting evidence on previous vendor accounts and user feedback). In this way, a vendor can easily rely on previously gained reputation. Interestingly, in the vast majority of cases (when searching for European placed vendors) the numerical rating of vendors was between 4 and 5, although a range of 0 to 5 is possible. The data analysed does not allow an assessment of how vendors with a lower rating handle the situation or what action they might take in such a case. The vendor page usually also

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includes a short self-description of the vendor stating why it is worth buying their products, information on refunding or reshipping in case a delivery might get lost, shipping information, postage options, stealth used, contact information and terms and conditions for ordering. Furthermore, a list of previous customer reviews and listings of different products offered by the vendor are provided. Additionally, the market administrator will inform customers if a particular vendor is under scamming investigation, which is usually done on grounds of reasonable suspicion. An example of such a warning is illustrated in Figure 1 by a sad smiley on the profile page of vendor TPO.

INSERT FIGURE 1 HERE

Another strategy for building trust and reputation online is the customer feedback system, which allows the buyer to submit a review on the product and the service of the transaction. In the case of Agora, all reviews are publicly available on the profile page of the vendor as well as on the page of the particular drug listing. Figure 2 illustrates a positive review on the product (5 g Methamphetamine or so called Crystal Meth) of vendor TPO. This includes a numerical rating (i.e., 5 out of 5) and a written feedback that might address satisfaction with the quality and quantity of the drug, the shipping time, stealth techniques used to conceal the product and packaging when shipping or the responsiveness of the vendor. In addition, a time specification (i.e., 70 days ago) is made so that interested customers are informed about recent developments regarding the product and/or the vendor himself. There are many ways to strengthen the vendor-customer-relationship on cryptomarkets. Sometimes vendors send higher amounts of the goods ordered – especially to new customers – as is stated in Figure 2. However, dispatching illicit drugs of high quality has been most

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frequently mentioned in the customer reviews and can therefore be regarded as the most effective way to build trust. Other strategies mentioned were stealth used to conceal the content of the delivery, fast replies by the vendor and shipping time. These all are means to increase customer satisfaction and incentives for them to return to the same vendor. Furthermore, the review also includes numerical information on how many deals a customer has made. Since there were reports of false feedbacks in various forums, a high number of feedbacks might indicate a higher level of credibility. Nevertheless, from time to time reviews are also negative. Figure 3 illustrates a feedback by a buyer that did not receive the quantity of Cannabis agreed upon and also his dissatisfaction with shipping time.

INSERT FIGURE 2 HERE

INSERT FIGURE 3 HERE

The information about and from the vendor mentioned above is supplemented by contributions to various discussion forums, including the official Agora market forum, the Subreddit on Agora, and the Subreddit DarkNetMarkets. Forum chat entries can give more detailed information on the vendor, products and service, although this is not always the case. These entries are less formalised and tend to be rather critical contributions and sometimes the language used is abusive and offensive. Forums are an additional opportunity, a more interactive one, for the vendors to introduce themselves, to proove that they are legitimate and thus trustworthy, and for users to exchange information about, amongst other things, previous experience with a particular vendor and their products. Moreover, customers can submit reviews on vendors (see Figure 4) on Subreddits like Agora

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and DarkNetMarkets and other signed in users have the opportunity to comment on these reviews. Usually, these reviews have a higher level of detail than the feedback submitted on the profile page of the vendor although the amount of detail in the reviews does differ. Vendors can also influence the (critical) reactions of forum users when they respond quickly to requests and, in this way, provide good customer service. In addition, Figure 5 is a good illustration for assessing the importance of discussion forums: it points towards the necessity of a trustworthy vendor to have a forum chat entry additionally to his profile page. However, one of the problems that comes with anonymity is that reviews of any kind can be faked, for example, by vendors presenting themselves as unsatisfied buyers in order to discredit the reputation of other vendors.

INSERT FIGURE 4 HERE

INSERT FIGURE 5 HERE

In summary, while nuanced and evolving forms of trust and reputation in conventional commercial drug dealing are established via interpersonal relationships, this is less possible within anonymous DNMs. Rather, the interplay of vendors, customers, and market administrators with regard to an elaborated feedback system as well as information provided on product quality, shipping, communication, and stealth represent equivalent substitutes of face-to-face interactions. One similarity between online and offline drug distribution is the role of trust in relation to aspects of money, quality, and security. These aspects seem to be essential elements of illicit market structures because they represent the risks that make trust necessary. Probably the most important difference between conventional and virtual dealing with regard to trust as an element of the seller-buyer-

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relationship is that online-vendors try to establish trust proactively in order to attract new buyers and to increase their sales and income, while offline-dealers would usually not make deals with new customers unless they are introduced by someone that is already trustworthy.

Violence and dispute resolution

The second analytical category of drug distribution practice focuses on the use of both physical and psychological violence as well as on modes of conflict resolution. Both can be used for various purposes: as a leverage to enforce deals, as a conflict resolution system, as a threat against competitors, or to escape prosecution (Goldstein, 1985; Thoumi, 2003; Zaitch, 2005; Reuter, 2009). In that way, we explore similarities and differences between conventional drug distribution and dealing on darknet markets. The analysis focuses on two concepts of the use of violence - as a means of conflict resolution and a form of imposing sanctions.

Conventional drug distribution

Illicit markets differ from common legal markets in a way that they don't offer means of third-party conflict resolution. The rule of law does not apply here, neither in the form of commercial nor in terms of penal laws. Market participants can always be victims as well as offenders of fraud and violence. For example, they are taken to a lonely place, beaten up, and finally robbed:

"(…) and suddenly the doors [of the car] opened, and I got a hit against the temple, was pulled out of the car, it rained quite hard, that guy threw me in a puddle. Then I lay there in the puddle, looked up, got another one against the temple, with some object, and the next I know is, that I have a gun

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in my face (...). They took the money [from my girlfriend] and then drove away, just leaving us on the parking area in the forest, and suddenly, after driving about 150 meters, the car stopped and turned around. The only thing I thought was, now they kill us." (Cornholio, 33 years, business economist)

Victims cannot call the police and have to cope with victimization on their own, while offenders are relatively secure committing their crimes – unless they are subject to violent forms of revenge. One interviewee was the subject of violence for stealing a considerable amount of drugs:

"Sure, I once got stabbed. (…) I stole five kilos at a time, and then they stabbed me, naturally, because I didn't hand it back." (Felix da Housecat, 35 years, artist)

An interesting aspect here is the fact that the respondent considers this to be the natural reaction of the people he stole the drugs from. Despite these potentially violent relationships between sellers, buyers, and possibly interfering third parties, participating in drug dealing usually seems to be relatively secure in Germany (as it appears to be in other countries like the UK; Coomber, 2006). According to respondents from the "The Distribution of Illicit Drugs" project, most deals are done without problems, which might be a result of the general rule of not selling to strangers. In some cases, dealers report having a bodyguard and / or of paying protection money. But if violence occurs, a single case might be more shaping than a full history of successful deals. Only a small minority of all dealing-experienced respondents (most of them mid-scale dealers) report severe cases of threat or even real violence, including batons, knives, or even guns. Minor cases include the theft of money or drugs and selling products of low quality. Reports of violent robberies committed by groups of offenders (gangs) are rare but evident. Just like the category of trust, fraud and violence are social categories of interpersonal relationships, and again money, quality of drugs, and security are the main issues. Rip-offs, regardless

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if violent or non-violent, are about earning money or drugs, selling adulterated or even fake drugs, and, on the other hand, staying safe from these threats. One interviewee – the only one who also reported dealing heroin in the street – mentioned both robbing and being robbed:

"SV: Yes, we made rip-offs, just other dealers."

"I: How did you plan and make this?"

"SV: Oh, planned? That wasn't planned. We just sat around. There were times, in which we didn't have stuff. Then we asked ourselves: What do we do now? Oh, he's selling? So let's go there and ring the doorbell. When we rang and he opened the door, he just got one [was beaten] immediately."

"I: Were you masked?"

"SV: Nope, that's not necessary. There are so many dealers, you can just forget about them." (Sid Vicious, 29 years, unemployed)

Violence on drug markets is a negative mirror, a counterpart of trust on the same market. It is one of the risks that may be weighed out by trust, and therefore it bears the possibility of regretting the trustful choice. Violence rarely happens within our sample, but if it does, it can be severe.

Drug distribution on cryptomarkets

The following section is mostly based on a paper published by Tzanetakis (forthcoming 2015b). The use of physical violence as a result of drug distribution is complicated on cryptomarkets, because of the anonymization technologies used by the parties involved as well as the physical separation. By covering their location as well as their identity, direct contact between seller and consumer is avoided. Instead, commercial fraud is

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the main type of crime committed and responsible for a lot of conflicts. In order to prevent scamming between vendors and customers and to have a tool for conflict resolution the escrow system was introduced on Silk Road 1. It has been further developed by other markets since the closure of Silk Road (Martin, 2014b). Escrow enables a third party (usually the administrator of the marketplace) to facilitate the trade between vendor and customer. The transaction will be completed by the trustee only when the buyer receives the product as was agreed upon. In the meantime, the payment made by the customer remains with the administrator and is not sent to the vendor (Deepdotweb, 2015a). As mentioned above, online as well as offline drug distribution is vulnerable to irregularities and fraud between all parties involved. The dispute resolution system on DNMs therefore offers a unique chance, by which a third party can solve a conflict between buyer and seller if necessary. Certain mechanisms help resolving conflicts: In case of a dispute between a new buyer with no previous or only few transactions and a vendor with many successful sales, chances of winning the dispute are low for the customer, and the same is true if they already have a high amount of disputes on their account (Deepdotweb, 2015a). However, the escrow system is not flawless. The administrators of the marketplace are put in a relatively powerful position as they keep the money until the consumer authorises the transfer of the payment to the vendor. And since the administrators also keep the bitcoins of all customers who have recently made deposits, they have access to a large amount of money. For example some DNMs (Atlantis, Cannabis Road 2, Pandora, Silk Road 2 (Gwern, 2015b)) were closed after money in escrow was stolen by administrators or external hackers (Martin, 2014b).

An alternative transaction mechanism to the centralized escrow system is the option to finalize early (FE) (Deepdotweb, 2014a). This means that the payment made by the buyer is immediately transferred to the seller, prior to the shipment of the product(s). The customers are left in a vulnerable position because they risk not receiving the order as agreed upon. However, it reduces the risk of bitcoin price fluctuation for the seller and FE also

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prevents losses in case of a market shutdown. Additionally, sellers list their offers for FE-transactions often cheaper than offers for escrow transactions.

Another method for sellers to prevent the risk of too much money being held in one centralized escrow system, is setting up an individual online shop. In contrast to DNMs, vendors operate their own sites. Similar to FE-transactions, sellers offer special discounts or additional products/shipping options when purchasing through their shop instead of external marketplaces, as is shown in Table 1. Besides reducing the risk of losing money in the centralized escrow system, the extra benefit for sellers in operating a shop is that no commission for the market is deducted from their sales.

INSERT FIGURE 6 HERE

According to our qualitative data, FE is accepted by the customers if the vendor has proven to be trustworthy via previous sales and positive feedback. A (typical) example of a negative customer feedback due to not receiving 5 g of cannabis although paid via FE is illustrated in Figure 6. The buyer had 25 to 40 transactions and can therefore be regarded as trustworthy.

While centralized escrow leaves a lot of money within a pool that can be hacked (externally) or stolen (by the administrator), FE is sometimes used to scam buyers. The buyer is thus left in a position of whom to trust more: the administrator of the market or the vendor. In order to avoid having to make this choice and to prevent the possibilities of abuse, the latest development introduced is multi-signature transaction (multi-sig). It is regarded

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as most secure and the lowest degree of trust is required because “neither the site nor the buyer nor the vendor can get the money without the agreement of one of the other two parties, either the vendor and the buyer, the vendor and website or the buyer and the website decide where the money goes” (Meehan, 2014). Since this transaction mechanism is technically demanding for both sides, the buyer and the seller, not many DNMs offer multi-sig. Agora, for example, does offer centralized escrow and FE but not multi-sig.

Finally another fraud in this regard, with probably the largest amount of money involved, is the so-called exit scam. This term is used to “describe a situation where a market admin or a vendor wants to retire, and is doing so while taking as much money as possible from their users / buyers” (Deepdotweb, 2014a). Probably the largest exit scam of that kind was the closure of the DNM Evolution in March 2015, which was at least the second largest DNM at that time (Gwern, 2015b). The Evolution administrators locked the funds on the market, withdrawals were not possible for vendors or customers and a few days later, the market was shut down completely, and with it 10 – 15 Million USD worth of Bitcoins disappeared (Deepdotweb, 2015c).

In instances of exit scams, the risk of actual or implicit use of physical violence on DNMs rises – mainly when they involve large amounts of money and/or users. The exit scam of Evolution resulted in what Ormsby (2015) calls “the online pitchfork brigade”: Some online users who might (or might not) have lost money in the exit scam didn’t only want their money back, they wanted to see those responsible for the market – even those not involved in the scam – dead. While the use of physical violence is impossible when not knowing the real identity of someone, as we already stated in the introduction of this chapter, the disclosure of personal information of someone who wants to stay anonymous, may have some major implications for that person. This is generally called doxing (Deepdotweb, 2014a) and is often against the ethos of DNMs (e.g., the Agora market

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rules state that ‘anonymity is sacrosanct’ (Agora, 2015)). But when things get heated up, rules and ethics do not apply to DNMs anymore, in similarity to conventional drug dealing, and as such it doesn’t take long for someone to post an – alleged – IP address of one of the operators, set a 20 Bitcoin bounty on information of an administrator of Evolution, or start a crowd-funding campaign for the doxing of the evolution administrators, to cite some examples (Franceschi-Bicchierai & Pearson, 2015; Ormsby, 2015).

However, even though many users actively and passively participated in the doxing attempts of the Evolution administrators as a reaction to the exit scam, not all users were as surprised by the scam as “the online pitchfork brigade” (ibid.). In fact, an exit scam of a DNM is an expected risk by users within the DNM community, often assessed as a higher risk than law enforcement operations (e.g. the freelance researcher Gwern evaluated the probability of exit scams of DNMs as constant, while the threat of a law enforcement operation only starts to increase after one year of being online (Gwern, 2015a)).

Although doxing someone must not actually result in the proper use of physical violence against the identified person, it can also be used in other ways – e.g. for threats or blackmail. Doxing can also be applied by vendors wanting to resolve conflicts with buyers, without having to use the market-internal conflict resolution system. And a list of high-amount buyers can, for a vendor being arrested by LE, become very useful when negotiating sentence reductions (Hoffmann, 2015). But actual examples of successful doxing are scarce and the available conflict resolution system is probably more efficient. Thus while some like Hoffmann in his article might argue that doxing is “the DNM Drug Dealer’s only Coercive Tool” (2015), it seems to be used rarely, and only in very severe cases as with the Evolution exit scam.

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To sum up, law is not accessible as a conflict resolution mechanism for both online and offline drug dealers as well as customers. Hence, conflicts that arise when 'doing business' (with illicit goods) have to be solved without relying on enforceable rights and contracts that are available for lawful business. There are various ways of dealing with conflicts, and it is not self-evident that violent acts are the preferred method of choice. Therefore, the cases of violence reported in DDID sample were rare, but escalated with the amount of money and drugs involved. Rip-off problems, as reported in conventional drug dealing, can be compared to cases of scamming by vendors on DNMs. Nevertheless, DNMs offer at least some kind of unofficial third-party-conflict-resolution, therefore helping to solve disputes. This is, along with anonymity and physical separation, probably the most important difference between online vending and traditional dealing with regard to conflicts, violence, and fraud. Additionally, drug dealing on DNMs differs from conventional dealing with regard to the mode of transaction. Centralized escrow, early finalizing or multi-signature are all functional forms of building trust and avoiding problematic security issues. But none of these mechanisms used on DNMs works perfectly. Each offers different possibilities of scamming of certain parties involved (market administrators, vendors, customers), or is technically too challenging, and seems to be a huge challenge for DNMs.

Logistics & chain of supply

As a third category we analysed the online and offline empirical data according to how drugs are delivered either to peers or to customers (Pearson & Hobbs 2001; Buxton, 2006; Reuter & Trautmann, 2009). In this regard, similarities and differences between conventional drug distribution and dealing on DNMs are explored and discussed below.

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Conventional drug distribution

In the sample from the German project "The Distribution of Illicit Drugs", the vast majority of all respondents experienced in dealing (not only profit-oriented sellers; n=168) did not sell drugs in public areas: e.g., around three-fifths of those who had sold cannabis (61%) did so at home, and 23% at the customer's house (10% had sold in public surroundings and 6% at various or other places). Similar to the high significance of trust in the user-dealer relationship, the high percentage of dealing restricted to private settings indicates that this can be regarded as a means of protection against LE interventions. Interestingly, this mostly refers to small-scale dealing: The higher the profit made in the most profitable month, the more likely selling in public surroundings is (but not to strangers, the necessity of trust is not impaired by the decision whether to deal in private or public surroundings). When larger amounts of drugs are sold, many mid-scale dealers meet their (small-scale dealing) customers outside their houses, because they fear that their private home might already be under LE surveillance. For the same reason, a considerable proportion of mid- or large-scale dealers do not store drugs in their own house:

"The bigger the quantities, and the more we had these cases with police involved, the more we took measures of precaution. We had a girl with us in the car when we were on the way to a deal, and we installed stashes outside our house, either in apartments or in gardens of friends. We had to negotiate: either paying them in kind, or giving them money, but mostly they got paid with drugs" (Theo, 28 years, student).

While we have this information on the places where drugs are usually stored and sold, there is little evidence on logistics in a narrower sense, meaning, how drugs are usually carried from dealer to user, or from the dealer's house to the user's house. Again, respondents who dealt with larger

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amounts and/or on a mid-scale level mentioned more characteristics of dealer-to-dealer logistics. The most frequently mentioned mode was driving together with a woman (see above), sometimes even with a child. Other quotes on that issue cover a wide range of different measures:

“We rode along many kilometres by bicycle, to avoid traffic checks. Through the woods, some secret paths and stuff like that“ (Pablo, 28 years, student) – “When I was up to get larger amounts, I went jogging. Who would check a jogger? (…) Putting on sportswear, fixing the piece of hash at your stomach, and then jogging home“ (Lebowski, 40 years, IT employee) – “One of us was a construction worker, and he had some tray that we filled with cement, cementing the stuff (1 ½ kilos of MDMA crystals) in it, then smashing this, and putting the rubble and stones into the car. They could have found it only with an x-ray device” (Ninja, 35 years, market researcher).

These observations reveal great creativity among dealers regarding the transport of larger amounts of drugs, while, on the other hand, customers of small-scale dealers do not seem to take any special precautions on logistics, relying on the private character of the act of selling.

Drug distribution on cryptomarkets

Once more, dealers vending on DNMs cannot rely on personal interactions to exchange drugs for money since the identity and exact location is concealed on cryptomarkets. Instead, drugs are delivered by traditional postal services or package delivery companies without their knowledge. The global nature of DNMs has removed time constraints and geographical boundaries for selling and buying drugs, which can now be purchased at any time and from anywhere. Vendors indicate on their profile or product page where they ship from and to which region or countries they ship or don’t ship to, as we have also indicated in our four case studies in Table 1. In terms of security and duration of delivery it makes a difference if an order is

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shipped domestically or internationally. This seems to have mainly two reasons: on the one hand, the privacy of (physical) correspondence is a liberty and a basic rule of law, at least in Western democracies, therefore prohibiting large scale interception of letters and packages within one jurisdiction (e.g., Germany); on the other hand the diplomatic request to prevent the sending of drugs in postal items has always been included in nearly all important international drug treaties since 1914, therefore giving customs the possibility to search for drugs in cross-border postal sending. “Domestic is generally safer since your package won’t have to go through customs. Ordering from “hot” countries like Pakistan, Netherlands, and Columbia obviously carry even greater risk due to their reputation of exporting illegal products” (Deepdotweb, 2015a). Figure 7 illustrates the shipping information provided by vendor XPO who delivers worldwide from Germany. Some vendors, as illustrated in the example below, indicate estimation of shipping times, but also terms & conditions as well as refund possibilities in case the package gets lost.

INSERT FIGURE 7 HERE

Moreover, there are different stealth methods used to conceal the (illegal) content of the mail items. Vendors only refer partly to their stealth methods in their vendor profiles or on various forums, without uncovering too much. Using vacuum packaging or sealed aluminium bags are just basic examples of stealth techniques. Other methods used by some vendors are to pack the shipments as small as possible, or split an order into multiple shipments if necessary, with the aim that each should fit into the customer’s mailbox. The outer packaging usually looks like a regular or even professional shipment, often with a fake sender address.

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Customers also refer to the stealth used by indicating if the method was satisfactory or not in their written feedback (see Figure 8).

INSERT FIGURE 8 HERE

Yet another aspect of the shipping process is the possibility to send track and trace dispatches (see Figure 7). Since many incidents were reported regarding shipments not arriving at the address of the customer, providing track and trace is a way of offering more transparency. Also some vendors, as shown in the example above, require track and trace as a refunding or reshipping condition. Simultaneously, tracking also increases the risk of being traceable by LE authorities. For this reason, some vendors change the packing station for sending the shipments and the stealth methods on a regular basis (Deepdotweb, 2014b).

Within the vending process, the logistics and shipping process is, similar to conventional drug dealing, the moment where the vendor puts himself at the biggest risk of LE interventions. Small mistakes in the operations, like re-using the same post office or packaging, but also by putting the wrong postage on the package, can result in a police raid. One of the most prominent examples of the last months was that of vendor ‘Shiny Flakes’ in Germany, who due to the above mentioned mistakes and simple LE intelligence and observations, was arrested in March 2015 (Deepdotweb, 2015b).

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Summing up, a similarity between online and conventional drug distribution regarding logistics is how to protect the purchase transactions and the illicit goods against LE interventions. The question whether to sell in private settings or to choose public surroundings traditionally seems to depend on the amount of drugs sold. Both types of locations are chosen to avoid LE. Another similarity between online and offline dealing is the amount of creativity used to conceal the illicit product when making a transaction or shipment – stealth seems to be important for both the online and the offline drugs trade. In contrast to conventional drug distribution, virtual dealing has to rely on postal services (as legal companies) which deliver the drugs from vendor to customer without their knowledge. However, this offers additional shipping possibilities. Unlike traditional markets, geographical restrictions are only related to customs on online drugs market. Drugs can be purchased anytime globally on DNMs and thus create an even larger and more competitive market.

Conclusion

According to our data there are three significant differences between traditional drug dealing and online vending. Firstly, trust has a different meaning: on traditional drug markets, it is a sine qua non for interpersonal relationships, but not as a means of increasing sales and income in the first place. On the DNMs, however, trust is proactively promoted by administrators (via the market structure) as well as by vendors (via 'good conduct') in order to attract new customers and increase sales and income. Secondly, traditional drug markets do not offer third-party-conflict-resolution in the first place, but the DNMs do. This is of importance to the emergence of fraud and violence and how both are addressed by

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participants of the different markets. A third major difference is related to logistics: while hiding drugs ('stealth') is important in both markets, drug distribution via DNMs relies on legal postal companies by using their effectivity and responsibility in delivering letters and packages.

Despite these differences, in general both illicit markets for drugs, traditional drug dealing and cryptomarkets, seem to be shaped by social practices of trust, violence and other dispute resolution techniques, and logistics. Each of these categories include aspects of money, quality, and security, with security being divided into issues of not getting ripped-off/scammed and of not getting caught. These subcategories apply to all three main categories, regardless which type of dealing is observed. Therefore, it can be assumed that the out-of-law nature of the market is responsible for the current state of the main categories of drug distribution as analysed in this article. Law enforcement seems to be a trigger causing a special need for trust, an unpredictable and partly unknown occurrence of violence and theft, and certain forms of logistics employed. Subsequently, drug prohibition shapes the ways in which money is exchanged, the (sometimes low) quality of drugs traded, and security issues that have to be taken into account when selling drugs. Therefore, the criminological and political implications of our analysis point towards the imposition of measures regarding the legal regulation of drug distribution, in order to overcome problems with violence, trust, and logistics in the field of drug trade. Otherwise, fraud, violence, rip-offs, poisonous adulterations, and wildly fluctuating purity will remain integral parts of drug distribution.

Additionally, the above analysis shows a transparency paradox between conventional and cryptomarkets. While illicit products are listed publicly on the latter and traded via covert electronic communication and encrypted virtual currencies, both enabling a certain degree of anonymity, the opposite is true for traditional drug distribution. Conventional drugs markets fundamentally rely on secrecy, face-to-face interactions and fiat currencies for dealing (e.g., Zaitch, 2005). The point of the transparency paradox is that DNM and the associated anonymity systematically enable access to data

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on supply and demand which is not available on conventional drug markets on the same scale. Information on supply and demand as well as on practices of trading, motivation and experience enables additional research and comparison to traditional drug dealing. The implications of this transparency paradox are extended policy challenges for the existing system of drug control. Nowadays, drug users have access to an unlimited marketplace that allows selling and buying of (illicit) drugs of any kind globally, 24 hours a day, 7 days a week. The system of vending on DNMs has improved opportunities for both dealers and customers, especially with regard to quality, money, and security features, but it is by no means infallible. There are both technical as well as social challenges which are imposed by law enforcement but also by hackers, scammers and the like. However, the closure of particular DNMs due to seizures or exit-scams does not seem to impact the system of vending on DNMs in general. Practice for building trust, solving conflicts, maintaining constant accessibility and availability as discussed in this article, all while offering a high level of anonymity and security, are too advantageous to stop tech-savvy administrators, vendors, and buyers from trading on DNMs. In fact, these aspects are constantly evolving and diversifying. New markets, new features, improved (technical and social) stability are preliminary outcomes of a process that point the way ahead to future developments of cryptomarkets and open up the road that leads to them.

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Conflict of interest

There is no potential conflict of interest including any financial, personal or other relationships with other people or organizations.

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***Table 1**: Selection of vendors for the case study analysis*

Vendor Name on Agora	Shipping from	Shipping to	FE	Type of products	Deals made	Rating	Registered	Own vendor shop
Vendor TPO	Germany	EU	yes	XTC, Hashish, Speed, MDMA, MDA, Crystal Meth, Cocaine	2000~3000	4.97/5	1 year 1 month	yes
Vendor YPU	Austria	EU	no	Speed	200~300	4.95/5	1 year 1 month	no
Vendor XOP	Germany	World	no	Cocaine, Speed, MDMA, Marijuana	300~500	4.71/5	1 year 1 month	no
Vendor ZIV	Germany	Germany	yes	Marijuana, Cocaine	300~500	4.69/5	4 months	no

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Figure 1: *Excerpt of the profile page of vendor TPO on Agora market (accessed May 1, 2015)*

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***Figure 2**: Customer review on the product of vendor TPO (accessed May 1, 2015)*

5/5	Top quality and I even got some 0.1-0.2g more than ordered. unfortunately shipping time was 14 days or so but quality and weigh	5g clean Crystal Meth	70 days anon 1~2 deals ago

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***Figure 3**: Negative customer review on a product and service of Vendor ZIV (accessed May 1, 2015)*

2/5	received only 3g instead if 5. very slow communication to resolve this, after almost a month now he doesn't seem to care anymor	WHITE WIDOW / 5 GR. / A +++ / FREE SHIPPING / ONLY FE	82 days ago	anon ~5/5, 15~25 deals

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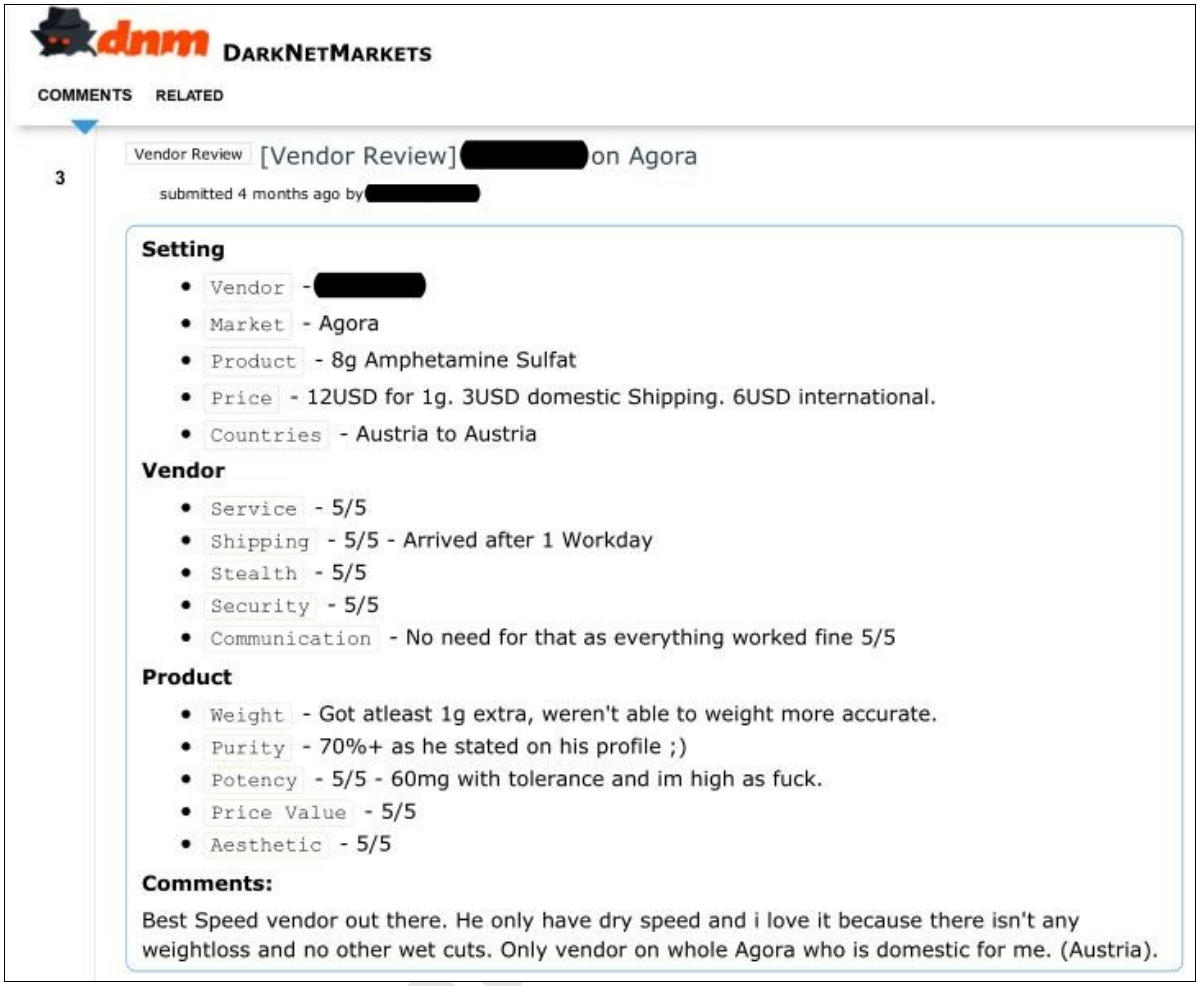
***Figure 4**: A review on vendor YPU on Subreddit* DarkNetMarkets *(accessed July, 22, 2015)*



dnm DARKNETMARKETS

COMMENTS RELATED

3

Vendor Review [Vendor Review] [redacted] on Agora

submitted 4 months ago by [redacted]

Setting

- `Vendor` - [redacted]
- `Market` - Agora
- `Product` - 8g Amphetamine Sulfat
- `Price` - 12USD for 1g. 3USD domestic Shipping. 6USD international.
- `Countries` - Austria to Austria

Vendor

- `Service` - 5/5
- `Shipping` - 5/5 - Arrived after 1 Workday
- `Stealth` - 5/5
- `Security` - 5/5
- `Communication` - No need for that as everything worked fine 5/5

Product

- `Weight` - Got atleast 1g extra, weren't able to weight more accurate.
- `Purity` - 70%+ as he stated on his profile ;)
- `Potency` - 5/5 - 60mg with tolerance and im high as fuck.
- `Price Value` - 5/5
- `Aesthetic` - 5/5

Comments:

Best Speed vendor out there. He only have dry speed and i love it because there isn't any weightloss and no other wet cuts. Only vendor on whole Agora who is domestic for me. (Austria).

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Figure 5: *Example of an entry on Agora market forum (accessed May 1,*

2015)

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***Figure 6**: Example of a customer review indicating not having received the order by vendor ZIV on Agora marketplace (accessed May 1, 2015)*

0/5	Beware Selective SCAM!!!! DHL said it was never shipped!! I Gave him 3 Weeks to respond and was friendly and he is ignoring me!	WHITE WIDOW / 5 GR. / A +++ / FREE SHIPPING / ONLY FE	82 days ago	anon ~5/5, 25~40 deals

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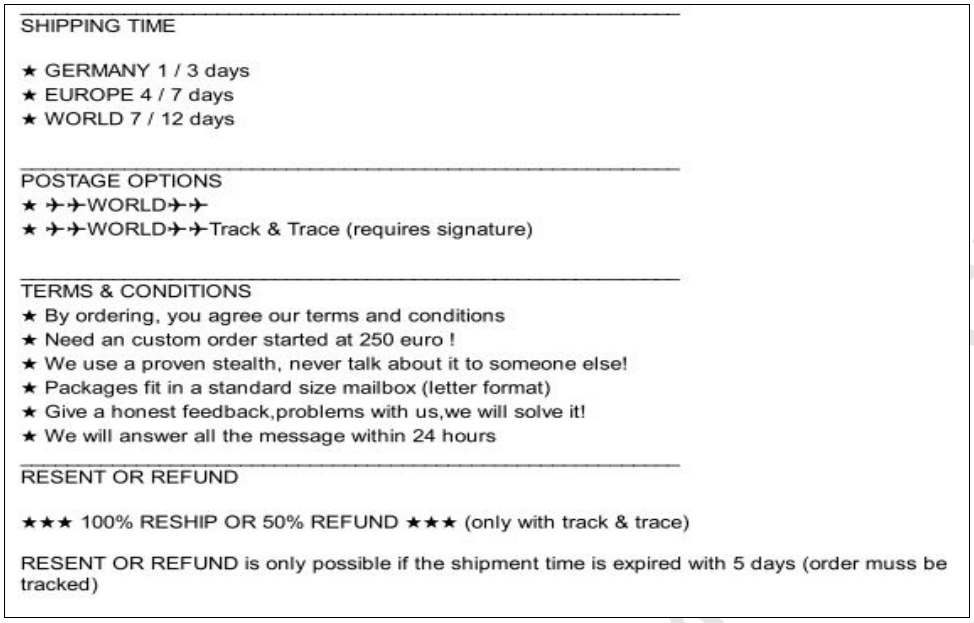
***Figure 7**: Example of shipping information by vendor XPO on Agora marketplace (accessed May 1, 2015)*



SHIPPING TIME

★ GERMANY 1 / 3 days
★ EUROPE 4 / 7 days
★ WORLD 7 / 12 days

POSTAGE OPTIONS

★ ✈✈WORLD✈✈
★ ✈✈WORLD✈✈Track & Trace (requires signature)

TERMS & CONDITIONS

★ By ordering, you agree our terms and conditions
★ Need an custom order started at 250 euro !
★ We use a proven stealth, never talk about it to someone else!
★ Packages fit in a standard size mailbox (letter format)
★ Give a honest feedback,problems with us,we will solve it!
★ We will answer all the message within 24 hours

RESENT OR REFUND

★★★ 100% RESHIP OR 50% REFUND ★★★ (only with track & trace)

RESENT OR REFUND is only possible if the shipment time is expired with 5 days (order muss be tracked)

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***Figure 8**: Example of a customer feedback regarding the average but sufficient stealth of the packing for vendor YPU on Agora marketplace (accessed May 1, 2015)*

5/5	Fast shipping and good product. Stealth is average but totally sufficient for shipping inside Schengen Area.	1g dry speed powder (amphetamine sulfate) - max purity	70 days ago	anon ~5/5, 10~15 deals

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Highlights

- We examine differences and similarities between conventional drug dealing and cryptomarkets.
- We explore social practice regarding the use of dispute resolution including violence, building trust, and logistics.
- In contrast to conventional dealing, administrators and vendors proactively promote trust online.
- Cryptomarkets offer novel forms of third-party conflict resolution.
- Drug distribution on cryptomarkets relies on legal postal companies.

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