



“Similar to Legal Companies”: Vendor Brands and Other Aspects of Marketing Communication in the Darknet Drug Trade

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ABSTRACT

The darknet or illicit online drug trade has expanded significantly in recent years. Vendors’ marketing communication strategies remain underexplored, however, as researchers focus on well-identified methods such as product quality, delivery times, or stealth shipping techniques. This study aims to show the multifaceted nature of sellers’ marketing practices on the dark web, including nonstandard approaches such as discounts, free samples, sales, contests, and lotteries. The article presents a case study of Cebulka, the largest Polish-language darknet market, using qualitative content analysis, natural language processing, descriptive statistics, and in-depth interviews. On Cebulka, vendors build relationships with buyers and maintain their trust through “marketing as promise management,” which includes feedback and review systems. The multi-method research approach reveals the nuanced nature of marketing on darknet platforms, drawing parallels and distinctions with traditional drug marketing. Additionally, this study contributes to understanding the darknet drug trade within the context of local markets, another underexplored topic.

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Introduction

Darknet or dark web markets, also known as cryptomarkets, emerged as significant channels for illicit drug sales in the 2010s. The pioneering example was Silk Road (active from 2011 to 2013), and its successor Silk Road 2.0 (2013 to 2014), both of which were eventually shut down by authorities (Aldridge and Décarry-Héту 2016). Since then, over 100 active markets have been documented (Dolliver and Kuhns 2016), and new sites continue to emerge globally. This rising trend is confirmed by ongoing monitoring at the National Drug and Alcohol Research Centre (NDARC), University of New South Wales, which issues three Drugs and New Technologies (DNeT) reports annually on global darknet markets. The most recent report includes an analysis of 20 cryptomarkets monitored from June 2023 to May 2024, of which 12 remained active at the end of this period (Man et al. 2024). In general, these markets enable the sale of illegal substances online, by mail-order (including terrain caches), or via face-to-face contact (Harviainen, Haasio, and Hämäläinen 2020).

Academic research on the online drug trade and cryptomarkets has grown recently (Tzanetakis and South 2023). Most studies concentrate on major marketplaces such as Silk Road or Alpha Bay (Chen and Liu 2021; Demant, Munksgaard, and Houborg 2018; Morelato et al. 2020a, 2020b; Van Hout and Bingham 2014). Other investigations have explored users’ knowledge of illegal substances (Bancroft 2017), their secrecy strategies (Grimani, Gavine, and Moncur 2020), and trust issues (Moeller 2023). While these studies have enhanced our understanding of drug sales, further exploration is still needed.

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In particular, research focusing on communication issues and drug cultures on local dark websites remains scarce (Harviainen, Haasio, and Hämäläinen 2020; Norbutas 2018; Van Buskirk et al. 2016).

A deeper understanding is required of how vendors in cryptomarkets advertise their products and devise marketing strategies to increase sales. We know that sellers on darknet platforms use a variety of techniques to uphold their reputations and minimize interception risks during transit. For example, providing detailed delivery information in product listings and framing substances in a more positive light can boost sales (Andrei and Veltri 2024a). Additionally, sellers may prioritize the discreet packaging of drugs to ensure secure delivery and maintain customer trust (Jardine 2021).

Aldridge and Askew (2017) have shown how vendors advertise their products to attract customers while minimizing the risk of detection. In their sales listings, they often include information about security measures, such as “stealth” packaging or shipping, and provide guidance for customers in this regard. This emphasis on trust is crucial as vendors build credibility by providing high-quality customer service through fast and encrypted communication channels such as Jabber or Telegram. They often highlight these capabilities as part of their customer service package to enhance consumer satisfaction. This aligns with Martin’s (2018, 2023) concept of “cryptomarket gentrification,” which refers to the transformation of drug markets from environments characterized by violence and intimidation to those defined by more civil and orderly interactions. The norms and structures of cryptomarkets, such as customer feedback, dispute resolution systems, and a focus on trustworthiness and professional conduct, help to drive this shift in tone.

Vendors can capitalize on gentrification and the anonymity offered by cryptocurrencies to facilitate transactions and maintain the confidentiality of their operations. They can also cultivate and sustain relationships with buyers by adhering to the principles of “marketing as promise management” (Grönroos 2009), committing to traditional values such as product quality and delivery times, and using the aforementioned concealment techniques. Sellers aim to meet customer expectations and often rely on consumer feedback and reviews to bolster credibility and influence buyer decisions (Brinck, Nodeland, and Belshaw 2023).

While existing research has begun to illuminate these marketing strategies in darknet drug markets, this area requires further exploration. While conventional methods of promoting products, such as pricing strategies, product availability, trust-building, hassle-free shipping, and commitment management, are well known, the use of more unconventional marketing techniques, including discounts, free samples, sales, contests, and lotteries, remain poorly understood.

In the marketing literature, “standard” and “non-standard” marketing strategies are often distinguished from each other according to their approach to audience engagement and communication style. “standard” marketing focuses on uniform campaigns across markets, emphasizing consistency and brand coherence, a typical example being global promotions such as Coca-Cola’s Open Happiness campaign (See, for example, Heding, Knudtzen, and Bjerre 2020). By contrast, “non-standard” marketing adopts a more adaptive approach, tailoring messages to specific cultural contexts or using unconventional methods such as guerrilla marketing, social media, or influencer-driven campaigns (Ahmed et al. 2020; Leung et al. 2022; Miller 2017).

However, in this article, we do not adopt this division in the usual manner. Rather than expand the literature on “standard” marketing strategies, this article highlights certain vendors’ tactics – such as discounts, free samples, sales, contests, and lotteries – that we refer to here as “nonstandard” practices, even though they are commonly used by legal companies. Given our focus on darknet markets, we follow this distinction between “nonstandard” and “standard” marketing strategies to cast light on a relatively underexplored area in the dark web drug trade literature. For this reason, we use these terms in quotation marks and provide further elaboration in the Discussion section.

One exception in the darknet literature that addresses what we consider to be “non-standard” practices is the study by Childs et al. (2020), who discuss how vendors use discounts to attract customers to engage in off-platform direct dealing. The researchers note how sellers frequently offer price reductions to incentivize buyers to move away from the general marketplace and engage with them directly via encrypted messaging apps such as Wickr. This strategy is driven by vendors’ desire to

avoid marketplace commissions and move transactions to less regulated platforms. Examples of such offers include a general 5% discount for direct deals and additional promotional deals such as free product samples for new and existing customers. Sellers may also employ VIP programs, in which returning customers are placed on a priority list, receiving faster order processing times and more efficient communication. Buyers are revealed as utility maximizers attracted to lower prices and discounts, which in turn helps vendors to lure them away from cryptomarkets.

While the study by Childs et al. concerns promotions beyond markets, it nevertheless draws attention to “non-standard” marketing activities, a previously neglected area, as indicated by Zaunseder and Bancroft (2020). Their own study primarily focuses on price formation in response to cryptocurrency fluctuations, although it also discusses how vendors structure discounts to incentivize feedback. Another example is an article by Holt, Lee, and Griffith (2023), who explore how “cryptomixing” services are used to obscure the origins and destinations of cryptocurrency flows in illegal transactions on the darknet. Although their study deals primarily with understanding these service operations and the benefits they offer, it does suggest they could play a significant role for sellers in advertising the security of their offer.

Although such rare studies exist, they tend to treat promotional strategies like sales and discounts as a side-topic or something that takes place “outside” cryptomarkets. Instead, the focus of the present article is strictly on the marketing communication of vendors. By exploring its many faces we aim to demonstrate that we are dealing with a highly nuanced and multidimensional phenomenon. Turning to both the “standard” ways of promoting described above, as well as the other less “usual” methods noted by Childs and colleagues or Zaunseder and Bancroft, we reveal that marketing communication in the darknet drug trade has a wide variety of aspects and explore what this means for general research on the topic.

It is also important that we address the neglected local dimension of the darknet drug trade by examining Cebulka, the largest Polish-language site.¹ When it began operating in 2013, it was initially unmoderated. In 2016, however, Pretty Good Privacy (PGP) keys were introduced, which enable encrypted logging and communication, as well as the use of escrow services. Cebulka uses Monero for transactions, while escrow process secures them by withholding the payment under the intermediary’s control until the deal is completed.

Cebulka functions as a board with threads opened by vendors, where a given vendor may use several initial posts to sell different kinds of drugs or a single post to sell several. If one post includes multiple offers, the comments (posts) below may refer to a particular substance purchased (indicating a general positive or negative experience with the vendor) or to several of them. There is no information about the specific regions of Poland where sellers operate. As of June 13, 2024, Cebulka had 61,917 registered users and 114,607 posts. However, determining the actual size of this market is challenging, as users may register for short-term access or switch accounts for various purposes.

Profiles of users, including sellers, are publicly available on Cebulka. Anyone can verify a vendor’s registration date, last activity, and number of posts. Customers are encouraged to review each sale, assessing product packaging, shipment, and drug quality on a five-point scale (1 to 5 for each criterion). If a transaction is unsuccessful, the user can file a complaint with the administrator, who will attempt to resolve the dispute. However, there is a distinction between two types of users: the *Obserwatorzy* (Observers) and the so-called *Cebulkowicze*. *Cebulkowicze* are more active users who can write threads in each section, launch surveys, and comment directly under the offers, while *Obserwatorzy* have limited access and cannot write posts and rate sellers. Promotion from an *Obserwator* to a *Cebulkowicz* occurs by purchasing the status (a small amount of around 60 PLN [\$15.00]) or completing a recruitment process (writing to the administrator and explaining how one wants to use the platform). For further analysis, it is crucial to note that sellers’ profiles also display information about so-called trade points, which represent the sum of the ratings given by all users with a status higher than *Obserwator*.

¹<http://cebulka7uxchnbpmqap5pfos4ngaxglsktzvha7a5rigngdghvadeyd.onion/index.php>.

Details of the types of drugs traded and related data can be found in the Findings section. Although not directly related to the main topic of marketing, we consider this information important in the context of characterizing Cebulka as a local and previously unexplored site.

Our study employs a variety of methods, as outlined in the following section, including qualitative content analysis, in-depth interviews, natural language processing (NLP), and descriptive statistics. We intentionally adopted this multi-method approach, believing it would provide better insights into marketing practices and the meanings users attribute to them. A multidisciplinary stance also seemed appropriate because a relatively small number of studies have focused solely on marketing drugs on the darknet. We elaborate on this in the final Discussion section, where we also highlight the broader significance of our research. The following sections will describe the methods used and present the study's results.

Methods

The research was carried out in two stages from February 2023 to February 2024. The initial stage involved a comprehensive examination of the Cebulka site's content, resulting in the collection of 16,842 posts by January 2024. This stage also generated 53,171 words of field notes, as well as a general overview of the website's rules and culture.

Ethically, this research followed a "best practices" approach, with methods thoroughly detailed in another source (Harviainen et al. 2021). These methods included hashing all usernames and identifiers such as e-mail addresses and instant messaging numbers found in posts. Due to the disorganized nature of Cebulka's posts, data cleaning was done manually and with regular expressions in Python. While removing user handles from posts was straightforward, obfuscating contact details and similar information required a more nuanced, iterative process involving multiple rounds of automatic obfuscation and manual verification for accuracy (Harviainen et al. 2021; Martin and Christin 2016). Ethical approval for all procedures in both stages was granted by the School of Social and Political Science IRB at the University of Edinburgh (approval ID: 288628) and the Faculty of Cultural Studies IRB at the Kazimierz Wielki University in Bydgoszcz, Poland.

In stage one, given the chaotic and unstructured manner in which vendors advertise drugs, we employed regular expressions in Python to generally target drug offers out of other, non-drug-related posts. However, semi-automatic coding was performed using MAXQDA (software used for analyzing qualitative data²), as vendors use different names and descriptions for substances and various methods to indicate package delivery and contact information. To characterize Cebulka's drug advertisements, we randomly sampled 365 posts featuring drug advertisements from all 1,422 offers. We identified the type of substance, communication methods with vendors, payment and shipping details, sales conditions, and drug descriptions, among other data. Spearman's correlation coefficient was utilized to examine connections between some variables.

To explore "nonstandard" forms of marketing, such as loyalty discounts, competitions, or freebies, we decided to use some natural language processing (NLP) tools, including word frequencies, lemmatization, and NLP's descriptive statistics. This time, we looked more closely at 365 posts with offers and 4,322 comments (posts) below them, as promotions usually appear in these. Word frequency lists were generated from the linguistic corpus of posts and comments (with words being lemmatized). Then, words and tokens understood as groups of marketing-related words were identified based on the above-mentioned field notes and previous research identified in the Introduction. Those with the highest frequency were considered significant. Importantly, this approach was able to identify "nonstandard" promotional actions and show the importance of "standard" marketing and reviews.

In addition, for 4,322 comments under the 365 selected posts, sentiment analysis was used to evaluate whether the marketing mechanisms translated to positive or negative feedback, thereby

²<https://www.maxqda.com/>.

backing up claims on the importance of the reviews. This analysis used a model based on the HerBERT Language Model, one of a series of BERT-based language models trained for the Polish language (for the analysis grounding our approach, see Barbieri et al. 2020).³ Finally, at the end of the first stage, we also looked at the profiles of all Cebulkowicze registered on the forum on February 29, 2024. The total number of such profiles was 3,388. We compared the previously mentioned trade points with the number of posts by a given user and the number of days they had been registered users (registration time). Spearman's correlation analysis was used to discover any relationship between all these factors.

The study's second stage involved in-depth interviews to explore Cebulka's marketing processes more deeply. Instead of creating a recruitment post (Barratt and Maddox 2016) to disclose ourselves as researchers and recruit participants, we contacted Cebulka's main administrator to explain our study's aims and seek permission to post a recruitment advertisement. This approach was taken to avoid potential adverse reactions from users who might perceive us as intruders.

The entire process and its challenges are detailed in another paper (Siuda and Cheba 2026). However, it is important to note that the involvement of an administrator significantly influenced our study. Her approval strengthened it ethically, as she permitted us to browse and collect site data and endorsed our interview security procedures. However, she disallowed a recruitment post, believing the community would not respond positively to such disclosure. Instead, she required us to use encrypted private messages on Cebulka for interviews and designated two previously informed users for us to contact. After completing the interviews, we were to return for the next pair of contacts. This method resembled snowball sampling (Parker, Sam, and Alistair 2021) and was similarly time-consuming. Additionally, conducting interviews using PGP keys prolonged the study, with only six interviews completed after several months spent on the second stage of research. In the following section, we assign each respondent a number (01 to 06) when presenting the findings.

Findings

Stage one – posts analysis: drugs sold

We categorized 40 types of drugs. Table 1 shows the top 13 drugs sold on Cebulka in 365 advertisements. The table details the number of posts featuring each specific drug and the total number of offers. As previously mentioned, a single post on Cebulka can contain multiple types and subtypes of drugs, which is particularly true for cannabis and prescription drugs. Vendors often sell different types

Table 1. Number of posts with various drugs and number of offers for these drugs in total.

Category	Number of Posts with a Specific Drug's Type	Offers in Total
cannabis	172	420
MDMA	69	102
cocaine	55	71
amphetamine	53	56
prescription drugs	48	1230
LSD	42	48
3/4CMC = clephedrone	40	48
3/4MMC = mephedrone	34	45
ketamine	29	35
DMT	21	39
psilocybin mushrooms	21	29
methamphetamine	14	14
designer drugs (e.g., HEX-EN)	4	7
TOTAL	602	2144

Source: Own study.

³See also <https://huggingface.co/allegro/herbert-base-cased> for more details.

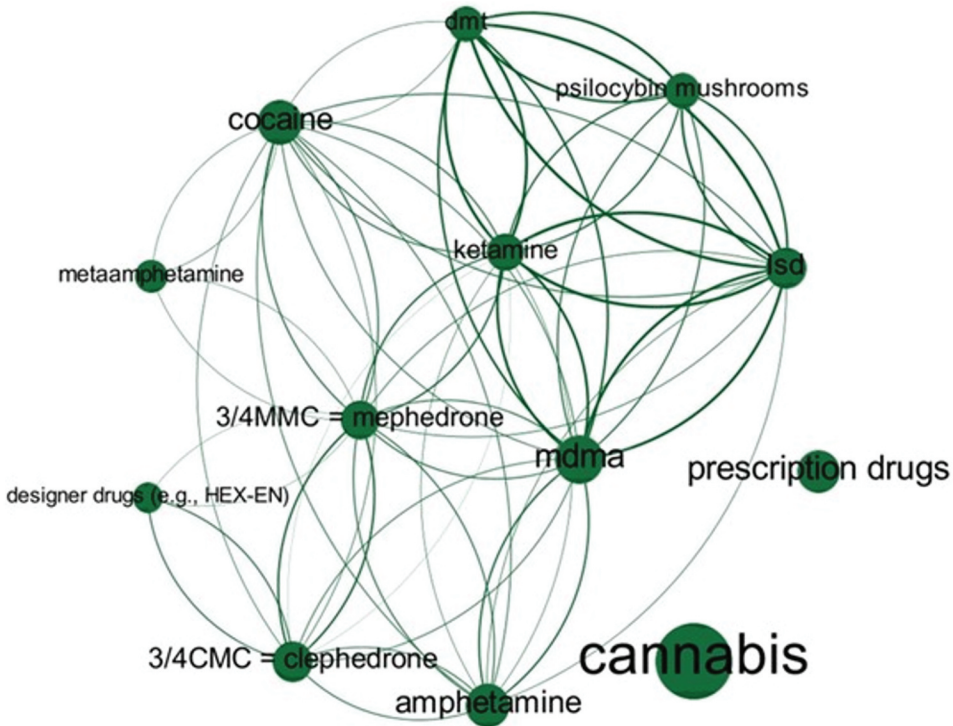


Figure 1. Which drugs are being sold together?

of hashish or marijuana (72 subtypes were identified) or offer a wide range of prescription drugs. For these, 24 subtypes were identified, including anticancer and antiviral drugs, opioids, benzodiazepines, and psychotropic substances, among others.

Interestingly, for both cannabis and prescription drugs, vendors are highly specialized. [Figure 1](#) visualizes the correlations, indicating which drugs are often sold together. Only positive and statistically significant correlations are shown for the top 13 drugs illustrated in [Table 1](#) (based on posts, not total offers). As is evident, cannabis and prescription drugs are not connected, unlike the other 11 types. This suggests that vendors tend to specialize, focusing either on cannabis, prescription drugs, or other types of drugs.

Sellers individually regulate minimum prices or quantities sold, with no fixed rules. Generally, they operate as retailers and wholesale arrangements can be negotiated privately (this was an option for 82 analyzed posts). All vendors provide information on the shipping method, most using parcel lockers, mainly the popular Polish InPost services. Some also use the Polish Post Office or other shipping companies such as DPD. Additionally, they present various templates for ordering drugs and provide information on possible complaint procedures: “If you think what you received is of poor quality or not even what it should be, try to prove it in any way possible. Usually, a test for just a few zlotys is enough to have a basis for a claim.”

Stage one – posts analysis: marketing

“Standard” marketing

Vendors advertise drugs by providing detailed positive descriptions, including taste, smell, structure, and color, found in 182 analyzed posts, often with photographs of the substances. The beneficial effects of using drugs (150 posts), country of origin (e.g., marijuana from the

Netherlands: 70), ease of dosing (41), or other aspects (22) are also mentioned for marketing purposes. The sellers bolster their credibility by assuring the high quality of their products, mentioning many “standard” issues, as indicated by word frequency analysis. This shows that features such as overall quality, rich offer (many varieties), or deliveries are frequently discussed (see Table 2 below), among many similar topics.

On the other hand, information about laboratory testing and drug composition is rare. Examples include statements such as, “LSD is tested in a lab in the Netherlands, RSO in a lab in Slovenia.” Since April 2023, sellers have been able to obtain the status of a Certified Vendor, valid for one year and approved by an administrator, who tests selected products from the vendor’s offer using a mystery shopper method. As of February 2024, only a few tests had been performed, with eight vendors receiving the certification. Passing the test could result in many more orders, but we did not find evidence of administrators and sellers “conspiring.” Administrators declare integrity and full devotion to the site’s rules.

A key factor for a vendor’s reputation is guaranteeing the safety of shipments. This includes using multi-layered (anti-scan), odorless, sterile packaging (192 posts) and applying OPSEC (Operational Security) procedures, such as not giving away any phone numbers, or using fake or temporary numbers for tracking orders (320). Accessibility and communication are also crucial. Most vendors prefer encrypted e-mails or Wickr messenger (still active in 2023), mentioned in 243 and 190 posts, respectively. Other secure instant messaging services such as Jabber, Threema, and TorChat are less common.

Table 2. Frequency of the top words related to marketing and top tokens for each word.

Word	Frequency	Number and Percentage of Posts	The Most Common Token (in Polish and English) Segment of an Example Post (Translated to English)
Top five lemmatized words (in Polish and English) related to the “standard” marketing and reviews			
<i>jakość</i> <i>quality</i>	1,102	719 9,01%	<i>wysoka jakość; high quality</i> : 75 hits HIGH QUALITY HEMP PRODUCTS AND INDOOR DRYING PLN 21.00
<i>odmiana</i> <i>variety</i>	936	485 6,08%	<i>nowa odmiana; new variety</i> : 22 hits Active all the time, welcome! There is still some left, but after the new year or earlier, a new variety will appear; I aspire to be among the top vendors in Cebulka ...
<i>zapach</i> <i>smell</i>	707	452 5,67%	<i>zapach i; smell and</i> : 63 hits The product comes in shiny shells, has a distinct horseradish smell and taste, and is slightly greasy. It encourages consumption at first sight or sniff ...
<i>dostawa</i> <i>delivery</i>	350	294 3,69%	<i>dostawa w przeciągu; delivery within</i> : 84 hits ... delivery within 24 hours. Good, clever packaging. Enjoyable smoking, adequately dried, dense buds, without leaves and fines ...
<i>poziom</i> <i>level</i>	257	206 2,58%	<i>najwyższy poziom; highest level</i> : 45 hits Regarding contact, the seller’s approach to the customer is professional. The service here is at the highest level ...
<i>promocja</i> <i>promotion</i>	477	325 4,07%	<i>promocja dla; promotion for</i> : 41 hits ... the promotion for the first five people who set up Escrow will be as follows: order 5 grams and receive 10, 10 = 20 ...
<i>sample</i> <i>sample</i>	427	343 4,30%	<i>sample dostępne; samples are available</i> : 93 hits SAMPLES ARE AVAILABLE if you are considering making your first purchase! The best offer on the Polish darknet! ...
<i>biore</i> <i>participate</i>	412	410 5,14%	<i>biore udział w; I am participating in</i> : 396 hits For the first ten people, 1 g for PLN 8. Please write in the comments, “I am participating in a promotional campaign” ...
<i>gratis</i> <i>free</i>	321	259 3,25%	<i>jest gratis; it’s free</i> : 43 hits I do not charge extra for any shipping. It’s free – ALWAYS! The only condition is to open escrow ...
<i>konkurs</i> <i>competition</i>	219	141 1,77%	<i>wziąć udział w konkursie; enter the competition</i> : 65 hits To enter the competition, you must: 1) Post in the MAIN TOPIC! 2) After receiving the sample/order, write a review in the MAIN TOPIC.

Source: own study.

Reviewing drugs and vendors

Although rates and reviews are not mandatory, sellers strongly encourage customers to leave them, stating that they will send goods faster or provide special promotional packages to those who comment or rate their transactions positively.

Word frequency analysis highlights that commenting on successful or unsuccessful sales is crucial. Words and tokens indicating the quality of purchased substances or the nature of transactions frequently appear in offers and comments (see Table 2 below). Additionally, sentiment analysis of all 4,322 comments reveals that about half have a positive or negative connotation (see Figure 2). Many comments are considered neutral for research purposes, as users often share their experiences such as describing their mental states, trips, or hallucinations, without necessarily evaluating drugs or sales. Moreover, many comments also pertain to participating in competitions, promotions, or lotteries. When users evaluate the offers, the reviews tend to be predominantly negative, with fewer positive ones. This confirms how valuable the positive comments are to the vendors who encourage customers to give positive reviews in exchange for better service.

In addition, the prevalence of negative comments confirms the general importance of reviews, highlighting that sellers face fierce competition and their customers demand high quality. Although we could not determine to what degree the negative comments might be malicious smears by competitors, the topic of such practices appeared in the in-depth interviews, and we will elaborate on it further. The comments also show how marketing raises expectations, verified at the review stage. It should be noted that this analysis may not fully capture the phenomenon, as administrators often delete negative opinions if a potential dispute has been resolved in favor of the vendor. This implies that posting negative reviews is often used as an effective means of lodging complaints.

Considering the marketing context, therefore, comments on vendors and assessment of them seem crucial for market functioning. In this respect, it is important to consider the role of sellers' activities. This article does not measure vendor feedback or consider how sellers respond to customer comments. However, Spearman's correlation analysis reveals a weak, although statistically significant, positive correlation between the number of posts and trade points (Figure 3). A very weak positive correlation was observed between the registration time (days since registering) and the number of posts, and a statistically insignificant ($p = .059$), very weak negative correlation between registration time and trade points (Figure 3).

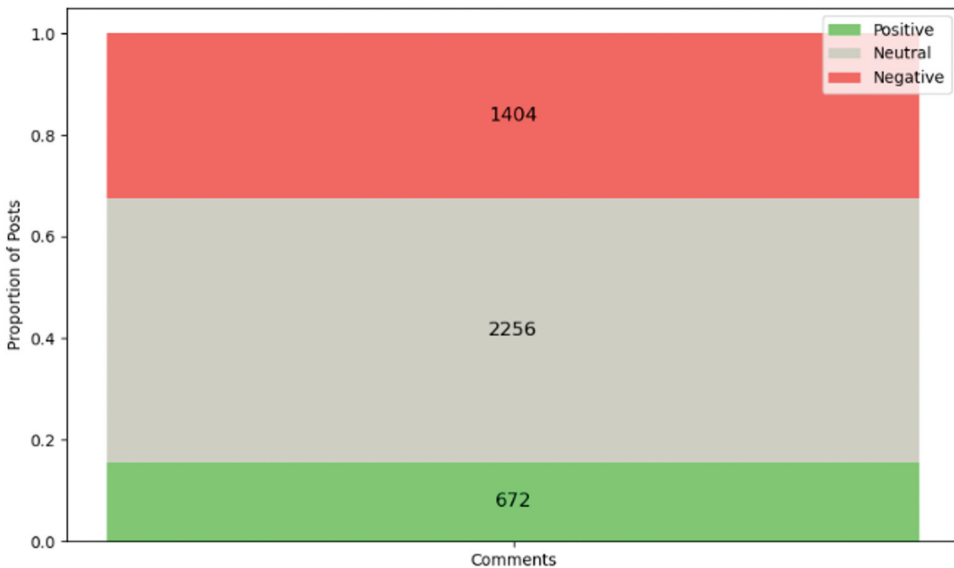


Figure 2. Sentiment analysis of comments.

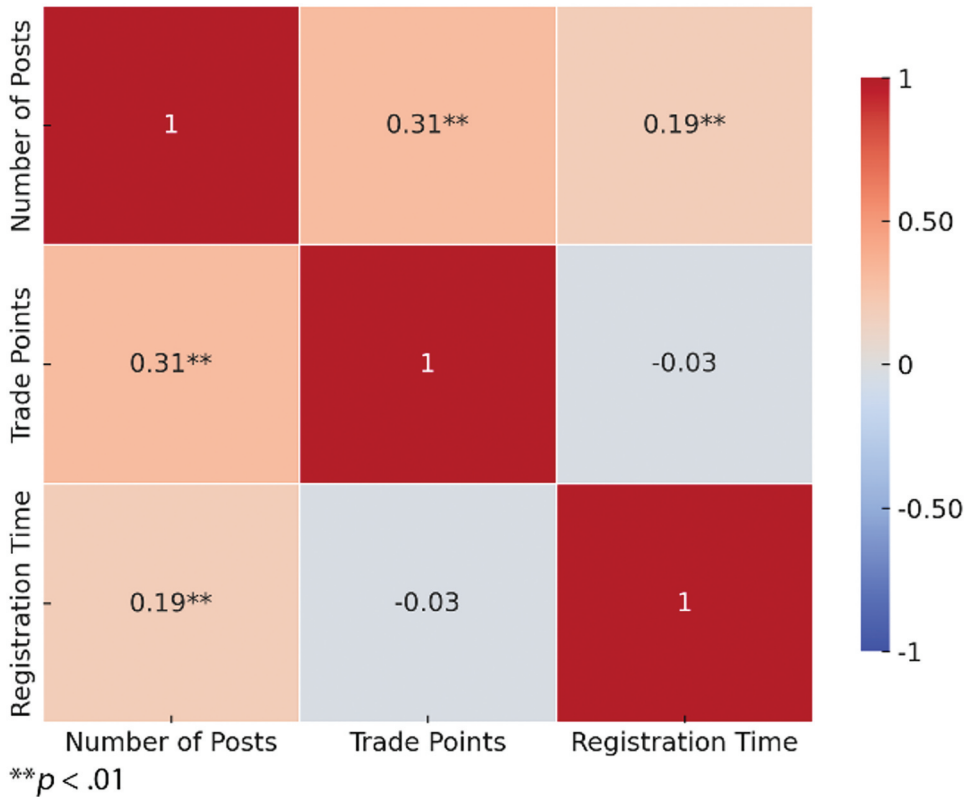


Figure 3. Spearman correlation matrix for the three variables.

These results indicate a relationship between seller activity, as measured by the number of vendors' posts – including offers, responses to buyers' comments, and general posts on the website – and their trading success, as measured by trading points. Importantly, being a vendor for a long time seems less crucial for this success. However, the results and discussion presented here should be considered an introduction to further analysis of the relationships between these three variables, as well as the potential impact of additional factors, as mentioned in the Discussion section. Here, we aim to highlight the importance of activity for trading success. This theme will also be elaborated on in the interviews, raising sellers' posts and their impact on reputation.

“Non-standard” freebies and others

Marketing drugs can also involve offering various incentives. For instance, vendors may provide discounts based on the number of orders (identified in 18 posts), free samples (12), discounts for first-time users (11), discounts in exchange for positive feedback (10), free shipping (8), various sales (5), discounts for regular customers (4), competitions (2), and discounts for newly opened businesses (2), among other promotions.

As mentioned earlier, however, promotions may appear in the offers (initial posts), but mainly in the comments below. To understand the scale of this phenomenon, we introduced elements of NLP. Table 2 shows that promotions, free samples, services, and participation (see the word “biorę”) in competitions and lotteries are very common. It highlights the top five lemmatized words for “standard” and “non-standard” marketing. While we could present a more comprehensive list, this selection is sufficient for our purposes. Additionally, we found it reasonable to focus on the meanings users attribute to marketing activities; hence, in-depth interviews will be discussed next.

Stage two – in-depth interviews

“Standard” marketing

According to the respondents, building a brand is crucial to running a business, especially considering the constantly growing competition. They confirmed the role of “standard” marketing described above, as users become “more aware and more demanding. They don’t accept anything, they have time to think, no one rushes them to buy” (01). They want to read about the benefits of buying a specific drug and expect complete information, including the time and shipping. In this sense, online trading has curbed impulse spending, thus making purchasing decisions more “rational.”

A diverse and rich offer – although extremely important – is insufficient. It is crucial to communicate high-quality products, especially since “in real life, no one competes based on who has the cleanest product – they compete with price. In the darknet, price is not everything – more and more people are lured by the purity.” (02) Some interviewees emphasized that sellers must adapt to many target groups because, “if someone wants to buy several different products, they often look for a seller who has it all.” (05)

Providing false information about the drugs’ quality or inappropriate prices can damage a vendor’s reputation. Customers tend to be sensitive to inconsistencies, and “a red signal is lit up for such instances.” (03) “An example of mythomania not liked by most is overstating the quality of products or simply exaggerating their purity.” (05)

Reviewing drugs and vendors

The respondents also confirmed the importance of the comments and ratings after a successful or unsuccessful transaction. Some also noted the differences between traditional and street sales. To them, rating others means “warning others against goods of questionable quality and, consequently, destroying the business of a dishonest vendor without their revenge. . . This is not the street; no one is threatened here for writing their opinions.” (04)

Significantly, the interviewees believed that positive or negative assessments might sometimes not depend on vendors as they could “offer good quality products and suddenly their source changes, and thus the quality of the services provided, and there is no rule for this.” (03) According to the respondents, some users may deliberately post unrelated negative comments, although their identities typically remain unclear, and this is not a frequent occurrence. Nevertheless, all respondents indicated that administrators are “capable of detecting and blocking such users” (04) while also “doing an excellent job of listening to users’ needs and remaining impartial.” (06) All this does not change the fact that ratings are a priority for sellers, as is good contact with customers and refunds when something goes wrong.

All measures that help build relationships and bonds between vendors and customers help get good reviews. This applies to “standard” procedures, such as shipping time and how regular a seller is, as well as being seen as authentic, honest, and sincere. An essential part of this approach is to occasionally let go of the money and see not only the transactional part of sales but a more compassionate attitude toward the customer, understanding their needs or life situation:

It turned out that the product was contaminated despite initial cleaning, which I had no idea about, so I returned all the money . . . and threw the product away. . . Sometimes such mistakes happen. However, suppose we want to maintain a high level long-term. In that case, we must not only repent for our sins but also compensate . . . I could also mention an old client who was left alone with the children he was raising and had housing and financial problems, but psychedelics gave him strength and hope for a new, better tomorrow. He wrote to me and received a free package worth over PLN 1,000. Why? Because I can and I want to. (02)

The opposite behavior, such as arrogance or uncivil conduct, can only harm vendors, causing customers to “distance themselves,” especially if the sellers attempt to “shout out their arguments . . . or they are not substantive enough.” (03) On the one hand, buyers despise “lies, breaking rules, deception, not keeping one’s word, bragging, lack of willingness to solve the problem if it was the vendor’s fault.” (05) The same also applies to “sellers shouting over who has better products, accusing

each other of mistakes or frauds.” (04) On the other hand, some are praised for “kindness, transparent rules, lack of manipulating and presenting the offer as better than it is” (03).

Interestingly, respondents drew attention to other, less “usual” aspects of “standard” marketing communication on Cebulka which can determine reviews. In their eyes, recognizing a given vendor depends not only on the above-mentioned quality of products, stealth packaging, shipping time, or sincerity and authenticity, but other factors as well. Creating valuable content beyond the offers in forum sections devoted to general conversations regarding drugs, safety, and other topics is essential. Such activity leads to recognition among users, especially if the “number of valuable posts” is large (04). This aligns with the earlier juxtaposition of activity measured by the number of posts with vendors’ trading points.

Interviewees also noted that self-presentation is another less “standard” aspect of marketing communication influencing how sellers are viewed. This includes nicknames, logos, or visual settings of the profile or products, which differ from self-presentation in street-level sales. However, one of the respondents noted some similarities in this context and stressed that “every seller will find his or her audience. There are many buyers, and each of them has different expectations and requirements.” (06) Moreover, a nickname or a profile image seems to count for less than photos of the substances being sold, according to some: “It seems to me that people pay more attention to the photo of the offered product.” (04) For other interviewees, however, self-presentation was important, influencing sales and the general reputation of a given seller because customers “pay attention to many such features.” (01) A situation where “the vendor writes with grammar errors and typos . . . and has a profile picture that is offensive to some” (06) may discourage a potential customer from buying drugs:

The aesthetics of writing and presenting oneself attract or discourage customers. Self-presentation matters in the case of customers as well—if vendors feel that the buyer may be mentally unstable or pose a threat to the community or the seller: such customers are banned or blacklisted. Profile images, photos, and nicknames also have some importance—these make us want to do business with someone . . . or not. (02)

“Non-standard” freebies and others

All respondents confirmed the important role of “nonstandard” marketing communication: promotions, samples, lotteries, etc. This confirms the results from the first stage. Even the most straightforward action, “highlighting offers in the sales section on the message board” (03), can bring numerous benefits to vendors. In this context, the interviewees emphasized building positive associations with the brand, promoting it, strengthening its validity, building user relationships, or attracting new customers.

Interestingly, distinguishing one’s products from the competition’s offers was only one of the themes that appeared when freebies and others were discussed. “Sampling campaigns” (sending small quantities to several people who respond to the given post in exchange for opinions) (04) or “promotional campaigns regarding transaction amounts – e.g., transactions over PLN 500 entitle one to 10% more products” (02) are not just a matter of increasing vendors’ profits. Sometimes, the motivations can be different, as in the case of one of our respondents: “I also ran programs aimed at fighting depression, where I gave DMT or other products for free to people who wanted to join the program.” (02) The interviewees framed this positively as “allowing buyers to evaluate the product without significant financial burdens” (02) – an issue we will elaborate on in the Discussion.

These “nonstandard” forms of marketing communication are allowed on Cebulka, according to respondents, who pointed to lotteries as “currently the most popular” (01), together with various contests: “I think that this community is about more than just trade. Therefore . . . vendors like to receive feedback from buyers, as evidenced by competitions aimed at promoting a given seller.” (03)

Discussion

The present study explores the multifaceted marketing strategies of vendors on the darknet drug markets, specifically focusing on the Polish-language platform Cebulka. Our findings reveal that

sellers utilize “standard” and “nonstandard” marketing techniques to build their brands, ensure customer satisfaction, and foster trust within this illicit marketplace. “standard” marketing strategies include detailed product descriptions, high-quality assurances, and efficient communication channels, while “nonstandard” strategies encompass promotional campaigns, free samples, and loyalty discounts, among others. These marketing efforts significantly influence vendors’ reputations.

We would like to emphasize once again that, in distinguishing between “standard” and “nonstandard” marketing methods, we loosely reference a general division in the literature between standard and nonstandard approaches. Our inquiries are set in the specific context of trade on the dark web, and we highlight that the forms of communication we have identified as “non-standard” are much less frequently studied. This is not unexpected, as product quality and efficient, secret, and safe communication are at the core of how cryptomarkets function. Consequently, it is understandable that researchers often prioritize vendors’ self-promotion of these attributes. Nevertheless, it is worth exploring other aspects such as discounts, sales, and lotteries, especially since these can impact the high status of vendors. This status, in turn, can significantly increase sales and revenues. Andrei and Veltri (2024b) show that in the case of high-status vendors, buyers often ignore payment security measures, such as escrow, opting for direct payments instead.

Although we only loosely reference the marketing theories mentioned, it is worth emphasizing that many parallels to marketing practices used by companies for legal products can be found in this article. Vendors utilize strategies similar to those employed by companies to drum up consumers’ positive sentiment toward the goods purchased, much like in the case of “marketing as promise management” (Grönroos 2009). Despite this, we would like to stress that our aim is not to advance marketing research in general but rather to deepen the understanding of the drug trade on the dark web.

Overall, this paper’s findings are relevant for two main fields of study. The first is comparing the drug trade on the dark web with the traditional street trade. So far, such research has indicated that in cryptomarkets, the perceived quality of products and user knowledge is much higher (Bancroft and Reid 2016) and that these environments generate much less violence (Barratt, Ferris, and Winstock 2016). This study shows that it could also be viable to compare the marketing communication strategies of online vendors to what is being reported on how drug dealers manage customers in street-level trading (Tzvetkova et al. 2016).

Our findings highlight both parallels and differences between darknet and traditional drug marketing. Traditionally, drug dealers entice customers with perceived product quality and service, with word-of-mouth credibility resulting in more profit (Tzvetkova et al. 2016). Although estimating relationships between drug prices, user behavior, and supply is difficult due to a lack of data, ethnographic research shows that drug dealers use territorial control and targeted demographics for branding. They often use direct interaction to establish trust and loyalty (St Jean 2007). All these factors are similarly significant for vendors using Cebulka, as customers provide feedback in the form of comments, informing others how the transaction went or whether they were satisfied with the drugs. Additionally, users’ positive reviews on promotions could be seen as equivalent to the strategy of giving samples or a “little away for free” used by street dealers (Coomber 2003). For future research, it could also be asked whether free sampling for altruistic reasons, as mentioned in the Findings (“letting go of the money”), is a way to present oneself in a more positive light. Giving away free drugs in return for reviews can be seen from another perspective as exploiting financially burdened individuals as test subjects, a practice well recognized from the street-level trade (Coomber and Moyle 2018).

Unlike traditional dealers, however, darknet vendors can launch extensive promotional campaigns using strategies adopted from real-life marketing scenarios (Grönroos 2009; Mullin 2010). Cryptomarkets gather users in one specific space, usually crowded with vendors facing stiff competition. Their marketing communication practices try to emulate what is known from street trading, but this seems limited due to the specificity of online trafficking. Hence, the seller’s brand is built based on the price as well as using various marketing efforts derived from traditional e-commerce, PR, and branding campaigns. We demonstrate that these methods leverage the darknet’s anonymity and

security of cryptocurrencies to enhance trust and minimize risks. Using stealth shipping, encrypted communication, and loyalty programs reflects advanced marketing tactics that are becoming increasingly sophisticated. One of the respondents noted, “For vendors’ brands, it’s similar to legal companies” (01) when referring to sellers’ customer service, problem-solving, or general satisfaction with buying drugs. We realize that comparing different communication strategies and business models of online and offline sellers needs to be addressed more fully in future research. Nevertheless, the present study outlines various research threads and suggests some themes to explore.

Secondly, this article shows the communication practices of the Cebulka drug subculture, including how marketing communication functions on this site, how it is organized, and its basic hierarchies and values. It represents another step to improving our knowledge of online drug dealing in general, exactly because a given local (in this case Polish-language) site is being targeted. As previously noted, it is increasingly acknowledged that researchers should pay attention to the localized characteristics of the darknet (see also Haasio, Siuda, and Tuomas Harviainen 2024).

A few studies have highlighted potential geographical differences in the use of cryptomarkets. For example, Van Buskirk et al. (2016) have identified country-specific variations in the number of sellers. Norbutas (2018) has observed the geographical limitations of online markets, suggesting that “online drug trade networks might still be heavily shaped by offline (geographic) constraints” (2018:92) and may be “more localized . . . than previously thought” (2018:92). However, research on market locality remains scarce, with most existing studies focusing on English-language sites. This study has examined Cebulka with the aim of addressing this research gap.

We are fully aware of the limitations of our study stemming from the research methods and procedures used. Spearman’s correlation analysis shows a relationship between the number of posts and trading points. However, causality cannot be concluded because other variables may influence both factors, leading to an observed correlation. In addition, the lemmatization used in NLP analyses may have introduced biases. The complexity of the Polish language, with words that can appear in many forms depending on their function in a sentence, presents challenges in accurately recognizing and processing all grammatical forms. This complexity might result in incorrectly identifying various word forms as representing the same lexeme. Moreover, while word frequency analysis reveals the most commonly used terms, it does not provide a comprehensive understanding of the relationships between them, nor does it focus on the context of their occurrence. This is one of the reasons why we decided to analyze posts and conduct in-depth interviews. However, as determined by the forum admin, the interview procedure meant relinquishing some control over the research process. The administrator selected interviewees, directing us to users with extensive knowledge of the forum’s operations, initially targeting popular and experienced vendors, followed by regular customers. This approach may have introduced bias by including only those more involved in the community. Nevertheless, we believe this should also be considered an advantage. Although the interviews were relatively low in number, they were conducted with insiders who provided valuable insights.

Apart from the mentioned comparison of drug sellers’ online and offline marketing practices, we see many potential ways to continue the present research. As previously indicated, we intentionally used a multiple-methods approach. Any subsequent research could focus on a specific methodology to explore marketing communication issues. For example, further research could deal with the impact of discounts and free product samples on specific customer behavior and general market dynamics. Expanding the scope to include comparative studies across different darknet markets and regions is also worth considering. This would help in understanding the variations and commonalities in marketing strategies employed by vendors worldwide. One could also focus on specific practices, such as self-presentation, graphic design, nicknames, or vendor use of specific language. Another theme to explore is how economic concepts such as supply and demand, pricing, and general market organization can be further applied to understand the marketing of illegal substances on the dark web.

As a result, the present study must be understood as a first step toward bridging a significant gap by examining how darknet vendors employ “standard” and “nonstandard” marketing techniques to attract and retain customers. However, further studies are necessary to build on these findings and

address their limitations, enhancing our knowledge of darknet drug vendors' sophisticated and nuanced marketing strategies and exploring how these approaches parallel offline drug trafficking and various legal market practices.

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Data availability statement

The data underlying this article are available on Zenodo and Figshare under the following DOIs: <https://doi.org/10.5281/zenodo.10810939>, <https://doi.org/10.6084/m9.figshare.25398268.v1>.

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