

THE GLOBAL INITIATIVE AGAINST TRANSNATIONAL ORGANIZED CRIME



# DISRUPTION

Insights from the **Digital Dangers** project

SIMONE HAYSOM



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# IN SEARCH OF CYBER-ENABLED **DISRUPTION**

SIMONE HAYSOM

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The Global Initiative Against Transnational Organized Crime WMO Building, 2nd Floor 7bis, Avenue de la Paix CH-1211 Geneva 1 Switzerland

www.GlobalInitiative.net



# Contents

Introduction	1
How the problem currently manifests	2
Observations about general market dynamics	3
Insights from anecdotal evidence	4
It's complicated: Relationships between offline and online markets	4
Domestic markets and diverse platforms	5
For private platforms, a huge disjuncture between official policy and reality	6
Cyber enforcement capacity is growing, albeit unevenly	8
Methodological contributions through technical innovation	8
How have online trends changed illegal wildlife flows?	9
Inadequate legal frameworks and the challenges of private-platform regulation	9
New roles and network structures	10
New demands and more effective ways of socializing people into illegal trade	11
The challenge for law enforcement	13
How should we disrupt IWT?	14
Improving private-platform compliance with existing policies and laws	14
Finding and identifying illegality	15
The internet as an excellent tool for open source information gathering	17
Raising the political profile of IWT	17
Working directly and indirectly with law enforcement	17
Changing norms and tackling online social processes	18
Tackling the enablers	19
Staying ahead of market evolution	20

v

# Key findings

The internet has made new and more effective avenues available for the marketing and selling of endangered animals and illicit wildlife products. There are several indications that cyberspace has become a major area of online criminality in this respect, expanding demand among consumers and frustrating traditional law-enforcement approaches.

Despite the apparent opposition from major tech companies to their platforms being used in the illegal wildlife trade (IWT), the Digital Dangers studies and reports in the international media have revealed the trade to be present on all major social-media platforms and easy to detect on most e-commerce platforms. Additionally, the low political priority placed on combating wildlife crime means that many state responses are inadequate and law enforcement under-resourced.

While this picture of rampant, almost unimpeded criminality and its serious consequences for wildlife may be bleak, there are important exceptions to state apathy. We have noted, in some instances, the creation of new cyber enforcement capacity and the establishment of government operations to this end.

Drawing on the knowledge gleaned from a year spent testing ideas, refining methodologies and exploring the dynamics of different markets, we suggest here some possible entry points for disruption of the trade; these range from openings for tactical improvements to strategic approaches that could change the playing field for those looking to respond.

# Introduction

This synthesis brings together select findings from across 'Digital Dangers', a year-long project run by the Global Initiative Against Transnational Organized Crime. The primary objective of the Digital Dangers project has been to acquire a better understanding of the unsustainable online trade in endangered animals and illicit wildlife products, and develop a foundation for its disruption.

Since being made accessible to the public in the 1990s, the internet has effected dramatic changes across many spheres – not least in the arenas of politics and crime. Unfortunately, the trade in endangered wildlife and wildlife products has not been immune to these developments, and current statistics on internet access and e-commerce suggest the trade will only continue to expand. While, overall, the growth in numbers of internet users has generally slowed down over the past year, access continues to grow rapidly in some parts of the world, especially in countries where there is established or predicted economic growth. This means that while the rate of internet access is already high in longstanding markets for endangered wildlife products, such as the EU and US, it is on the rise in many countries with new or prospective consumers (or producers) of endangered wildlife products. For example, in Indonesia, a country highlighted by the Digital Dangers project as a hub for both the endangered parrot and endangered reptile trades, internet access via smartphones is enjoying double-digit growth. Another 27 million Indonesians are expected to gain internet access between now and 2022.<sup>1</sup> And Indonesia is by no means the largest of these markets, coming in behind China, India and Brazil for number of internet users. As of December 2017, China had 772 million internet users, but an internet penetration rate of only 54.6%, making it both the largest online market in the world and one with immense room to grow.<sup>2</sup>

Growing internet-access rates have been accompanied by huge shifts within the world of commerce. Online shopping<sup>3</sup> has made modest but important gains against bricks-and-mortar commerce globally and has substantially affected the retail sector in individual countries (closely correlated with internet access). In 2016, 58.3% of global internet users had, at some point, purchased products online. Over the course of 2019, this figure is expected

to reach 63%.<sup>4</sup> The development of e-commerce has also aided the rapid expansion of the small-parcel delivery sector: parcel-shipping volume grew by 48% across 13 major global markets between 2014 and 2016, increasing from 44 billion parcels in 2014 to 65 billion in 2016, and with projections of annual growth of between 17% and 28% over the period 2016–2020. Not only has the internet facilitated buying and selling, but it now plays a key role in the marketing of goods, providing product reviews and guiding consumers on what and how to buy, as well as offering instructions for use. These trends have made new and more effective avenues available for many types of trade – including the illegal wildlife trade.

In this report, we argue that although it is difficult to get a comprehensive picture of the scope of digitally enabled IWT, there are several indications that this is a massive area of online criminality, capable of expanding demand among consumers and frustrating traditional law-enforcement approaches. Despite apparent opposition from major tech companies to their platforms being used for IWT, the trade is present on all major social-media platforms and easy to detect on most e-commerce platforms.

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International organizations and governing bodies have become increasingly concerned about these developments, as reflected in a series of decisions (17.92–17.96) adopted by the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the establishment of a working group on wildlife cybercrime at the 69th meeting of the Standing Committee in 2017. In this report we adopt the term 'cyber-enabled illicit wildlife trade' used by CITES, but we also speak about the online wildlife trade and wildlife cybercrime.<sup>5</sup>

The Digital Dangers project has yielded diverse outputs, including funding and training for investigative journalists, three species-specific case studies of online trade, four policy briefs considering different aspects of law-enforcement response, and the creation of a new piece of technology for identifying internet sites related to online transactions of CITES-1-listed species. This culminating report draws selectively on insights from these activities to present our conclusions to the question of how best to respond to the growth of digitally enabled methods of marketing, buying and selling illicit wildlife products. It delivers the results of this analysis in three sections. The first describes the present situation, the second looks at how shifts to digitally enabled trade have themselves disrupted existing approaches by both illicit traders and those tasked with combating IWT, and the final section considers different possible approaches to disrupting online IWT.

# How the problem currently manifests

The threat that digitally enabled trade poses to wildlife has not escaped the notice of NGOs focused on conservation and wildlife crime, who have been assiduously documenting the phenomenon since the beginning of the millennium. Over the past two decades, organizations like the International Fund for Animal Welfare (IFAW) and TRAFFIC have produced reports at frequent intervals that record the volume of advertisements found online, and/ or the value of the goods they display, in particular jurisdictions or on particular platforms. These reports generally indicate that the internet is an important, and in many cases fast-growing, site for sales and marketing in this respect. The most recent report by IFAW looked at the online wildlife trade in France, Germany, Russia and the UK over a six-week period in 2017 and uncovered 'thousands of endangered and threatened live animals and their body parts offered for sale online, revealing that reptiles, birds, ivory and suspected ivory are all widely available. In total, researchers found 5 381 advertisements and posts spread across 106 online marketplaces and social-media platforms, cataloguing 11772 specimens worth US\$3 942 329!<sup>6</sup> Such reports make important points about the scale and significance of cyber-enabled IWT.



However, as highlighted throughout the Digital Dangers project, the attempt to estimate the total scale or significance of this online trade is hampered by several factors. These include the prevalence of 'fake' advertisements of the kind used in advance-fee fraud, the difficulty of identifying the legality of items solely from photographs and brief advertisements, problems with assessing quantities (advertisements may be deliberately formatted to hide real volumes, giving instead the impression of an innocent individual selling a single item) and the difficulty of discerning the keywords being used for illegal wildlife products or of discovering all the locations where the products are sold. Previous investigations into the scope and scale of the role of social media have also predominantly been limited to short-term immersive monitoring sessions of a few weeks with a focus on key high-profile species. As a result, it is currently impossible to make a realistic evaluation of the total global size or significance of the role of the internet in promoting the illegal wildlife trade. This is, of course, not optimal. We do not currently have a robust, repeatable way of detecting online environmental crime nor a comprehensive picture of the true scale of the phenomenon, including where on the internet it occurs and which species are most affected by it. Developing this picture is important for successful public advocacy, for effective engagement with the technology companies whose platforms are involved, and for governments to get a sense of how best to respond.





The Digital Dangers project has sought to make the following contributions to the overall understanding of the scale and dynamics of the online illicit wildlife trade:

- 1. Observations about general market dynamics
- 2. Insights from anecdotal evidence
- 3. Methodological contributions through technical innovation

## **Observations about general market dynamics**

The most striking feature generally observed of the online market for illegal wildlife products is that despite the many laws and regulations that any one transaction may violate, digitally enabled IWT is conducted almost exclusively on the surface web. Traders may make relatively minor investments in anonymity or in obscuring activity (such as using code words in advertisements or setting up a closed or secret Facebook group), but they have



largely not been forced to sacrifice market reach by setting up shop on the dark web. The internet also provides cheap, sometimes free, platforms for marketing and conducting transactions – relative to conventional retail, it is much more affordable to enter the market online. As is the case with other illicit markets (such as narcotics), this convenience and affordability have allowed more people to play a role in the retail end of the IWT value chain, as we elaborate below.

In his brief for Digital Dangers, Felipe Thomaz observes that current IWT online markets display

a notable range in transaction quantities and types, from single animals exchanged among small collector networks (e.g. Asian Arowana fish in the US, where their import is illegal, or various reptile groups) to substantial supply-chain arrangements that service a buyer–seller relationship (e.g. a guaranteed supply of 100 lion pelts a month).<sup>7</sup>

This points to a relatively disorganized supply chain, one characterized by a lack of clear divisions between the various intermediaries and purchasing stages. Thomaz argues that 'in a standard business process, organization of the supply chain would allow for a controlled flow of goods from sourcing and production, through intermediaries, such as retailers, until the product reaches the demand side. In that kind of environment, the consumer would be presented with only appropriate options (e.g. not being offered a tanker of milk when he is interested in only a litre).'The disorganized supply chains of cyber-enabled wildlife crime both discourage and encourage purchasing – the disorganized supply chain makes it difficult for you to find what you are looking for, but it also increases your determination to purchase because you've already spent so much time looking.

The heterogeneity of the market also presents an obstacle to coherent and effective responses to the problem.<sup>8</sup> The online wildlife trade is conducted transnationally, but it is broken up based on the language of transaction and the type of product. Furthermore, a huge number of networks, companies and sole traders are involved in both licit and illicit trade. This makes it more challenging to identify the markets or actors most worthy of law-enforcement attention and raises the costs of IWT regulation.

### Insights from anecdotal evidence

A more granular picture of the current state of online markets has been developed by drawing on case studies of the online trade affecting particular species in specific regions, as well as on journalistic investigations from around the world. A number of important themes emerge from these reports.

#### It's complicated: Relationships between offline and online markets

Online markets have not obviously *replaced* offline markets, and the relationship between the two varies considerably, depending on the location or product. Online marketing and online transactions may be negligible with regard to ivory sales in Laos, for example, but crucial for the trade in Madagascan ploughshare tortoises. It is important to tease out these differences and the dynamics that give rise to them.<sup>9</sup>

In many places, online and offline markets rely on each other; online forums may play an important role in marketing and arranging transactions, but the goods might still be collected from traditional physical venues. The Digital Dangers case study of the Madagascan-reptile trade highlights how 'on the European market, traders offer animals for sale on specialist websites and specifically mention the reptile trade fair Terraristika, held quarterly in Hamm, Germany, as a place where specimens bought online can be obtained.<sup>(10</sup> Our

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interviews with law enforcement indicate that the Terraristika fair is frequently where illegal reptile transactions – initiated on legitimate online trading sites – are concluded.

Reports from other countries, or concerning different species, suggest that the trend is not towards complementarity but rather for online spaces to eventually replace real-world markets, facilitated by the increasing prevalence of courier services for delivering animals and animal products. Media reports from Brazil describe how traditional folk fairs, where endemic birds are sold illegally, have begun to migrate to the internet:

As the most popular social network for crime is still Facebook, the site concentrates thousands of people shamelessly making ads. One of the public groups, 'feira do rolo de passarinho' [birdwatcher fair], has almost 6000 participants. On average, 30 new buying and selling posts are created daily. In some cases, the delivery is done in person. In others, the animals are sent through the post office as a standard package.<sup>11</sup>

#### Domestic markets and diverse platforms

Research on the online illegal wildlife trade, such as the reports of the Digital Dangers project, documents the existence of substantial domestic markets for endangered wildlife, which often go ignored in discussions about international trade and CITES violations. It appears that 'Big Tech' is still the prominent player in most countries. Facebook groups and Instagram accounts feature prominently in our reports as well as in media reportage concerning Indonesia, the UAE, Pakistan and the global trade in Madagascan reptiles. In Brazil, some 300 WhatsApp groups are used to sell a wide array of Brazil-endemic fauna, particularly birds, reptiles and some charismatic small mammals.<sup>12</sup> *The Intercept Brasil*, using data provided by the Brazilian NGO National Network for Combating Wildlife Trafficking (Renctas), examined thousands of messages exchanged by these groups:

The monitoring showed that announcements of individual animals or lists of available specimens are made in the groups and negotiations then take place directly between the parties, usually via WhatsApp. Common credit and debit cards and bank-account deposits are accepted as forms of payment for the trafficked animals. Watches or jewellery are also accepted in exchange for the animals or as partial payment.<sup>13</sup>

However, domestic online trade is not limited to big tech platforms; it occupies an array of diverse platforms, many of them country specific. Indonesian platforms Kaskus, Ceriwis and Carousell have been highlighted as major sites for the trade in endangered Indonesian parrots and endangered Madagascan reptiles. In Nigeria, while the number of advertisements for endangered-wildlife products still appears to be low, local criminals are clearly making use of the free classifieds site Jiji.ng and the online forum Nairaland to advertise ivory and pangolins, and are seeking to actively expand domestic ivory demand through online marketing.<sup>14</sup> According to a report by Taiwo Alimi, a decline in the profitability of 419 (advance-fee) scams has meant that a group of former 'yahoo boys' have become involved in marketing ivory on domestic e-commerce sites. For these early cybercrime pioneers, online business has become a sideline to their main occupation as 'offline' middlemen for Asian ivory buyers. 'We promote our products on the internet too,' one of the former yahoo boys told Alimi. 'We advertise on popular online media and some social media: this is what everyone who has something to sell does.<sup>15</sup>

All over the world, social media have shortened the distance between desire and fulfilment. Journalistic research supported by the Digital Dangers project has turned up instances in which social media have been used essentially to 'commission' poaching incidents – in one case, such commissioning was a feature of WhatsApp groups dedicated to the wildlife trade in Brazil.<sup>16</sup> The report of a journalistic investigation in Pakistan, also supported by Digital Dangers, describes how social media have allowed complete amateurs to connect with South African companies or

individuals who supply them with lion cubs with which to set up their own breeding operations in Pakistan.<sup>17</sup> Without the connections that social media facilitate, it is highly unlikely that inexperienced individuals with no personal links to the animal trade would have been able to establish themselves within it. However, these transactions exist in a grey area of legality – the Pakistani breeders are quick to insist that their facilities meet domestic and international standards, but legislation surrounding the wildlife trade in Pakistan is weak, and the nature of their supply of fresh breeding stock suggests that the onerous legal channels have not been followed. The likelihood that these animals have been or will be 'laundered', or that they are being simply masqueraded as legal when not, is suggested by the various false identities that one of these breeders adopts online: '[The breeder] has three personal profiles on Facebook. In one of them, he calls himself a zoo owner; another describes him as the CEO in Wild Pets Club; the third has a picture of a man in his early twenties. "I am [a] Wild Animals Exporter. I have all wild animals for sale. I have three offices in South Africa, Mexico and Pakistan," reads his personal description in one of the profiles.'<sup>18</sup>

#### For private platforms, a huge disjuncture between official policy and reality

Several platforms appear repeatedly in reports on suspected IWT activity: Facebook, which owns two other frequently mentioned social-media platforms, WhatsApp and Instagram; eBay; and Tencent, which owns social-media platforms WeChat and GQ. All of these platforms are signatories to the Global Coalition to End Wildlife Trafficking Online, which brings together companies from across the world in partnership with wildlife experts at the World Wildlife Fund (WWF), TRAFFIC and IFAW for an industry-wide approach to combating wildlife trafficking online.<sup>19</sup> Some of these companies have implemented publicized measures to deter illegal trade, such as the pop-up notifications that appear on Instagram when you try to search for animals threatened by illegal trade,<sup>20</sup> or the recent announcement by Tencent that it will introduce a reporting function for users to flag suspected illegal activity.<sup>21</sup>

However, a year on from the Global Coalition commitments, it is not clear whether existing measures are sufficient or whether more will be forthcoming, and IWT is still rampant on these platforms. Louise Redvers, reporting on the UAE exotic-pet trade, describes how animals included on the International Union for Conservation of Nature's Red List and on CITES Appendix I (and also protected by domestic laws) are marketed openly on Instagram in videos and images replete with information identifying the seller:

The majority of traders use Instagram for their advertisements, sharing photographs, videos and stories with their followers, depicting the animals in back gardens or living rooms, occasionally with children, and frequently in cars. Some monkeys and baboons are shown in cages, or chained up, but many are roaming freely, dressed in children's clothing and diapers and seen drinking milk from bottles or snacking on potato chips. WhatsApp is another big trading platform with pop-up groups attracting hundreds of buyers and sellers in just a few hours. Although these online traders rarely use their full names and final transactions are completed privately, many of the sellers and their accounts appear to be linked to licensed pet stores located within the UAE.<sup>22</sup>

Media reports from the UAE and China have also pointed out that word bans (e.g. systems that prevent users from searching for a certain word string or present them with a pop-up message about illegal trade when they do) are ineffective in Chinese and Arabic. In a special report for *Gulf News*, Redvers reveals that Instagram 'does not yet recognize Arabic language posts, and in two months monitoring UAE-based Instagram accounts, which are mostly in Arabic, *Gulf News* saw no such advisories. There is also no option to report posts specifically for their animal-related content.'<sup>23</sup> On Baidu Tieba, a Chinese discussion platform similar to Reddit, 'keywords such as rhino horns, antelope horns and bear bile, which are banned from sale in China, are directly blocked from appearing in search results, but adverts for endangered wildlife parts can still be found by adding words like 'curio' or 'crude drugs', or using their homophonic characters, or pinyin.'<sup>24</sup>



These issues undoubtedly also apply to many of the other languages prevalent in IWT posts, such as Thai, Russian and Vietnamese, and this shows how current platform responses are failing to adequately grasp the global manifestation of illegal wildlife trade across cultures and regions. There has also been inadequate attention (including by the Digital Dangers project) paid to platforms prevalent in Russia and Eastern Europe, both of which are important consumer markets for wildlife products.

While in individual cases queries from journalists and activists appear to have prompted action from national and international platforms (e.g. the removal of a particular advert or account), too often there appears to be no consistent action to the address problem, and many observers complain that illegal activity quickly bounces back after these once-off efforts by platforms.

However, the disjuncture between the policies of private platforms and their implementation mirrors the disjuncture between state law and the reality of its enforcement. Government inaction and platform complacency are not independent of each other, and it is probably unrealistic to expect private platforms to take major, and costly, measures to curb the use of their platforms for these activities without clear guidance from government.

**Figure 2:** A mock-up advertisement from Facebook, based on a real ad.





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#### Cyber enforcement capacity is growing, albeit unevenly

While this picture of rampant, almost unimpeded, criminality and its dire consequences for wildlife may be bleak, there are important exceptions to state apathy. We have noted, in some instances, the creation of new cyber enforcement capacity and the establishment of government operations to this end. Around the world, governments with notably different capacities, problems and resources are trying to rise to the challenge of the illegal wildlife trade and its online presence.

Seven of the countries reviewed in our Catch Me if You Can report expressly criminalize the illicit trading of wildlife online – China, Portugal, the Czech Republic, France, Mongolia, Russia and the UK.<sup>25</sup> The UK's National Wildlife Crime Unit has established a Priority Delivery Group to encourage collaboration between law-enforcement and non-law-enforcement actors and share best practices for combating digitally enabled wildlife crime.

Indonesia has seen large growth in its cyber enforcement capacity across different departments. The Directorate-General of Law Enforcement (known as Gakkum KLHK) established a cyber patrol unit in 2017, which was tasked with overseeing and monitoring wildlife trade on online platforms with the aim of shutting down any illegal trade. The unit has collaborated with the Indonesian E-Commerce Association – a grouping of the leading e-commerce companies in Indonesia, including, for example, Tokopedia – to end animal marketing. As of June 2018, Gakkum KLHK had filed 70 cases of IWT for the courts and identified 532 cases of IWT in the six months leading to April 2018. The unit conducts surveillance of online wildlife traders, with the aim of tracing protected wildlife back to individual traders. The Ministry of Environment and Forestry also provides a quick-response call centre to the offices of the Conservation of Natural Resources, which enables local communities to report poaching and the illicit trade in protected species. Meanwhile, in 2015, the police department set up a similar cybercrime unit (called Bareskrim), which is responsible for monitoring cybercrime cases, including those involving illegal wildlife trading. In November 2017, Bareskrim launched an e-reporting initiative, which allows members of the public to report IWT.<sup>26</sup> In Brazil, an operation by both federal and state law-enforcement agencies, conducted in June 2017, exposed the illegal sale of almost 1 300 wild animals through Facebook in 15 of Brazil's 26 states. Over 300 animals were rescued, fines amounting to R\$2.11 million (approximately US\$550000) issued and 12 people detained.<sup>27</sup>

### Methodological contributions through technical innovation

The Digital Dangers project has also aimed to make a direct contribution to our ability to find, identify and characterize the trade in endangered animals online. To this end, with the expertise of our partners the Center for Analysis of Social Media (CASM), we composed and trialled a new technical methodology: the Dynamic Data Discovery Engine (DDDE). The DDDE aimed to build as comprehensive a picture as possible of how, where and when CITES-listed plants and animals, or commodities containing them, are transacted using the internet. It also aimed to identify the broader conversations taking place in connection with these products. This latter priority reflects the internet's role in allowing the formation of groups, and indeed subcultures, where the purchase and use of endangered-animal products is normalized and even encouraged. Therefore, the project sought not just to detect direct sales, but to also identify the conversations that socially and culturally underlie them.

The project's ambition was to unite technologies developed for web scraping, machine learning and data visualization in the development of a single, repeatable process capable of finding many more examples of online environmental crime than manual approaches alone. It was hoped that this kind of process would become a 'force multiplier' for the qualitative forms of research that have been carried out in this area, allowing them to inform attempts at detection that have been conducted at scale.

The DDDE was trialled across three case studies: orchids, pangolins and ivory. Its intention in each case was to identify as many URLs as possible, as precisely as possible, that are involved in either the transaction of the given species or commodities containing them, or conversations about such commodities that normalize these activities. The trial



yielded a large number of results – between 40 000 and 120 000 URLs per case study – containing a combination of relevant and irrelevant links. More detail about the method and approach, and the findings of the pilot study, can be found in our working paper on this methodology.<sup>28</sup>

The DDDE is a work in progress, and to be useful will need additional work to improve the precision of the outputs, to differentiate between the different kinds of websites that the DDDE identifies, and to analyze them in different ways. But overall, the DDDE was able to pinpoint a reasonably large number of URLs that are probably linked to IWT, either by facilitating the sale of a CITES-listed animal or plant (or products containing them) or by hosting discussions around these commodities. It is hoped that the outputs from this process can complement and strengthen more qualitative, case-specific and immersive forms of research on online environmental crime in order to give us a far more comprehensive picture of the online marketing and trading of illegal wildlife products.

# How have online trends changed illegal wildlife flows?

A number of conclusions stem from the picture of digitally enabled illegal wildlife trade painted above. In some cases, the growing importance of online transactions and online marketing has only intensified existing challenges in combating illegal trade. In others, it has had subtle, but possibly more profound, implications for both the scale of trade and the modus operandi of the people profiting from it – and those trying to stop it.

# Inadequate legal frameworks and the challenges of private-platform regulation

One of the clearest implications of the rise of digitally enabled trade is the complications around the regulation and criminalization of the trade in endangered animals. James Wingard and Maria Pascual's report lays out in forensic detail the huge challenges that the move to internet-based trade poses to an already inadequate legal framework.<sup>29</sup> As Wingard and Pascual explain, in order to determine which laws should apply in a particular case, it is necessary to ask the basic geographical question: where did the act constituting the crime occur? With the internet increasingly used to facilitate IWT, this question has become more difficult to answer. As a result of its capacity to reach across nations and therefore legal jurisdictions, the internet can fast turn a locally regulated resource into 'the object of a borderless crime':<sup>30</sup>

The criminal conduct may originate from any geographical location. The individuals involved may or may not be nationals of the location where the crime is committed. The species being traded may or may not be from that same jurisdiction and may or may not be legally traded in the jurisdiction where they are offered or purchased. The online platforms supporting the sale may be headquartered in an entirely different jurisdiction – and different from the one in which the hosting servers containing the evidence may be physically located.<sup>31</sup>

In addition, law-enforcement officials face huge difficulties with not just identifying the product, and laws governing its sale, but the identity of the person selling or marketing it. Ultimately, not only can a crime not be prosecuted until its jurisdiction is pinned down but prosecution also cannot proceed without a suspect.



Figure 3: How should we determine jurisdiction in IWT?

A hunter from Barcelona illegally takes a snow leopard during a hunting trip to Mongolia. He posts an ad on Facebook to sell the skin, which he had turned into a rug by a taxidermist in Seville. The product is eventually bought by someone in Medina, who receives it at home via DHL Express, using a MasterCard to pay on delivery...

# Where to start?

As discussed above, private platforms are guilty of not imposing adequate systems of regulation to combat rampant criminality related to endangered species. Their lack of urgency in this regard no doubt relates to the low political priority that this issue holds in government.

# New roles and network structures

Anita Lavorgna has argued that online trading is changing the network structure of animal traders in Italy and giving rise to more 'mom-and-pop'-type outfits, run out of people's homes.<sup>32</sup> Our Madagascan-reptile case study reveals similar dynamics at play in the international reptile trade: 'The majority of traders are private individuals, meaning that law-enforcement efforts cannot be focused on dismantling centralized, hierarchical networks and cohesive organized-crime groups.'<sup>33</sup> Amy Hinsley's study of the illegal orchid trade reaches a similar conclusion by uncovering the major role played by sole traders through a careful typology of the different degrees of organization within the trade.<sup>34</sup>

Our case study of the Madagascan-reptile trade notes the role of 'agents' in social-media-based trade. Here, Siv Rebekka Runhovde observes of Chinese social-media platforms: 'Agents help extend a trader's audience by reposting information on illegal wildlife products onto their own social-media platforms, and if someone in their circle wants to buy the product, the agent buys it from the dealer and resells it at a higher price to the contact within



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their circle<sup>2,35</sup> This phenomenon was also identified in our study of the Indonesian-parrot trade. In this case, agents are tasked by collectors to advertise their parrots on social-media platforms. The agents then act as intermediaries, receiving the parrots from collectors before passing them on to buyers. Agents have added yet another layer between the consumer and the middlemen who play a more significant role in driving poaching incidents and who extract greater profit from the trade.<sup>36</sup>

The Indonesian-parrots case study also notes the important role played by courier companies:

Trading through online platforms, as opposed to face-to-face interaction, has changed the nature of both buying and selling wildlife. The entire process of advertising, finding a buyer, negotiating a sale and transferring the funds may take place without any real-world contact between the two parties. The platform allows both parties to distance themselves from their activities and from each other. Although the use of such platforms does not change the fundamental structure of the chain from seller to buyer, it has given rise to another specialized role within the market: the animal courier, recruited by the trader as a third party. The animal courier service has emerged as a new business activity within the wildlife sales syndicate. Using dedicated animal couriers offers the advantage of anonymity to online wildlife sellers.

These services may be legitimate courier businesses that transport animals, and which may also engage in the transport of illegally traded animals.<sup>37</sup>

As already noted, in Nigeria, former 'yahoo boys' have been observed moving into middlemen roles in ivory networks.<sup>38</sup> It is not quite clear from anecdotal reports to what extent these middlemen roles in the international ivory trade are reliant on the internet. Alimi's report does, however, note the use of online platforms Nairaland and Jiji.ng (where ivory is not prohibited) to supply internal Nigerian ivory markets. An article on the pangolin trade in Nigeria also points to the small but detectable use of the internet by Nigerian middlemen to showcase to Asian buyers their access to hunted or trafficked products.<sup>39</sup>

# New demands and more effective ways of socializing people into illegal trade

The internet is proving to be a powerful vehicle for creating new demand by socializing people into illegal trade. The Madagascan-reptiles case study reveals that there is 'no specific demographic for buyers, these are typically described as "enthusiasts" who regard owning Madagascan reptiles, especially tortoises, as prestigious.<sup>40</sup> Elaborating on the creation of new demand, the report continues:

Online platforms allow [the Madagascan-reptile market] to be opened up to global demand, turning a small interest group into a large global community of potential buyers. In addition, the discussions among enthusiasts who share admiration for rare specimens means that these online forums can lead to spiralling demand as reptile enthusiasts seek to attain the same prestige and status as their online contacts by owning and collecting their own rare specimens.<sup>41</sup>

In interviews, law-enforcement actors have also emphasized this dynamic: the networking potential of the internet is intensely exploited by enthusiastic collectors, for whom engaging in IWT is more about passion and shared interest than purely commercial gain. An environmental investigator observed this playing out on Facebook with the novel appearance of advertisements for earless monitor lizards from Borneo on lizard-collecting groups, where demand and enthusiasm for the lizard spread among collectors with alarming speed. Collectors of this sort tend to have a more organized and permanent online presence based on their shared enthusiasm, their desire to exchange information and to bond or compete over their passions. Exploitation of the networking potential of the internet can be particularly detrimental to the survival of a species. By feeding the enthusiasm and competitiveness of collectors, these networks intensify the demand for rare or unusual animals.

The proclivities of collectors coupled with the networking and easy communications enabled by the internet can create a perverse dynamic where the rarest and most vulnerable species quickly emerge as those most sought after, resulting in disproportionate damage to the environment. Enthusiasts value rarity and uniqueness, and this is reflected in the high prices that most endangered species fetch. Messages that emphasize the threat trade poses to a creature's survival are therefore counterproductive, as they simply highlight the quality of rareness that drives demand.

The demand-driving potential of the online realm is not limited to collector or enthusiast forums, however. Social media has proved powerful at creating (and helping to supply) animal-product 'fads' – such as the craze for 'thumb monkeys' (pygmy marmosets) in China,<sup>42</sup> the Japanese fad for otters<sup>43</sup> and the worldwide fascination with slow lorises. We have also seen evidence that the internet is able to facilitate the direct commissioning of poached products (although this phenomenon still appears to be rare), and that the ease of marketing online has promoted 'commodity skipping' – when one product is overharvested or hunted to scarcity. In one instance, an investigator was able to ascertain that chimp skulls from Cameroon were being directly ordered by UK customers. The chimp skulls were a by-product of traditional hunting practices in Cameroon, but with the prospect of a market in the West, hunters were encouraged to start procuring them in greater volumes to satisfy the new demand.

Authors of a study on the effect of 'cute' slow-loris videos on internet users concluded that the videos 'introduced these primates to a large cross-section of society that would not normally come into contact with them'.<sup>44</sup> Their analysis of webometric data to gauge societal sentiment showed that knowledge of the plight of the species and the illegal nature of slow-loris trade remained stubbornly low over time. 'The strong desire of commentators to express their want for one as a pet,' the authors concluded, 'demonstrates the need for Web 2.0 sites to provide a mechanism via which illegal animal material can be identified and policed.'<sup>45</sup> The Digital Dangers Indonesian-parrots case study argues that social media have been effective at drawing in a new generation to the long-standing trade.

When one links the trends described above to the rise of social media and online shopping – with some young people increasingly prone to see e-commerce as the norm and shunning face-to-face interactions – it seems plausible that social media are the new frontier of driving IWT demand, unless traders remain dedicated to selling to an older customer base.



#### Figure 4: WeChat

conversation: Conversations between traders and buyers often begin on messaging apps, after a potential buyer sees an image with limited information on a socialmedia platform. Price and delivery are discussed on these encrypted messaging channels. Chinese platform WeChat integrates social media, messaging and e-commerce, making the shift between different channels very easy. This is a mock-up for illustrative purposes.



## The challenge for law enforcement

In addition to the confusion over jurisdiction created by the legal frameworks for cyber-enabled IWT, a lack of appropriate skills, resources and political priority are the core issues facing law enforcement in its efforts to control the trade. According to Wingard and Pascual, in order to investigate internet-related crime, law enforcement needs to be able to search computer networks; intercept, collect and keep communications data; and have the seizure powers that many law-enforcement agencies do not currently possess. Internet-based trade 'adds to existing challenges around IWT enforcement and compels enforcement officials to operate in a cross-jurisdictional, virtual space that they are largely unprepared to manage'.46 In the developing world, the lack of cyber resources to this end is more acute, with a serious shortage of the analytical software and institutional framework needed for methodical investigations.

The growth in the volume of internet-facilitated retail swamps the capacity of those responsible for policing environmental crime. Even specialized wildlife-law-enforcement bodies, such as the UK's National Wildlife Crime Unit, do not have enough people to manually monitor websites for illegal or potentially illegal scenarios. The situation is further complicated by the fact that much of the trading takes place through secret or closed groups.

Many officers in environmental law-enforcement units are from a wildlife-crime background and lack access to the necessary computer expertise, which means a further shortage of staff and other resources for cybercrime. In more developed countries these resources may, however, exist in other units or departments. In the Czech Republic, for example, the Environmental Inspectorate has a good relationship with customs, which has its own cybercrime unit. The two units have worked together to identify the posters of advertisements for illegal products, and even trace money via bank accounts. Similarly, in the UK, investigators of environmental crime can be given access to cybercrime experts from the National Crime Agency to help with ongoing cases.

However, investigators from the UK and elsewhere insisted that governments are reluctant to spend limited cybercrime resources on IWT; it is simply not a priority when compared to terrorism, child exploitation and drug trafficking.



Global Initiative Against Transnational Organized Crime In search of cyber-enabled disruption

Law-enforcement units all have finite resources and are inundated with more acts of crime than they can feasibly investigate. In the cost-benefit analysis that follows, it is clear that crimes that do not feature human beings always lose out.

Currently, so many people are participating in IWT as traders, agents, couriers (to look just at the retail end of the trade chain), that it would be impossible – as well as undesirable – to prosecute them all. The best use of lawenforcement resources may not be to target those people involved in retail transactions, who are easily replaceable and whose imprisonment will have little impact on the overall volume of the trade. Several interviewees expressed the opinion that sophisticated networks and wholesale smugglers do not make criminal use of the internet in a manner that provides a particularly effective point of intervention. In general, investigators believed that networks engaged in smuggling the highest priority products – such as tigers, ivory and pangolins – mostly connect through personal introductions and communicate privately, leaving behind almost no digital footprint. Not only do they eschew the open web, but they also no longer use mobile phones so as to prevent their movements being tracked or their messages traced and read.

Even where enthusiastic collectors or traders do make extensive use of the internet to communicate, this is often done in a manner that leaves no evidence of illegal intentions in the public domain. From a law-enforcement perspective, this makes such transactions difficult to address. Yet the lack of law-enforcement attention nonetheless feeds into the sense of impunity and the normalization of the trade. If would-be consumers see a plethora of illegal products being marketed so brazenly, how can they come to view their own purchasing of these goods as a 'real' crime?

Although we would argue that law enforcement is only one of a few options for deterring illegal trade, it nevertheless has an important role to play. Given the open way in which illegal wildlife traders operate online, it is unsurprising that in many parts of the world they barely factor the prospect of punitive action into their risk calculation; this is one of the reasons why wildlife crime flourishes despite the fact that the profits are so much smaller<sup>47</sup> than with other forms of illegal trade.

# How should we disrupt IWT?

Effective attempts at managing the wildlife trade in a sustainable way need to be multi-faceted, reflecting the fact that IWT has complex social, economic and environmental drivers and impacts. An excessive focus on regulation has so far yielded few successes;<sup>48</sup> similarly, as we have learned from attempts at combating other criminal economies, approaches that emphasize heavy-handed law-enforcement responses do not work well. Finding appropriate entry points for disrupting the online manifestation of the illicit wildlife trade is challenging. Interventions need to be strategic (to make the best use of limited resources), and given the heterogeneity of the markets for different wildlife products, several approaches and strategies are needed. Drawing on a year of testing ideas, refining methodologies, and exploring the dynamics of different markets, we suggest below some possible entry points for disruption: these range from openings for tactical improvements to strategic approaches that could change the playing field for those seeking to respond.

## Improving private-platform compliance with existing policies and laws

The work of the Digital Dangers project has highlighted the huge responsibility that major tech companies have as facilitators of illegal online trading. Facebook, Instagram, WhatsApp, eBay and WeChat feature prominently in a number of our publications, as well as in media reports on IWT. These companies are in many cases failing to live up to their own policies and their global commitment. As long as illicit activities attract people to, or keep them using, these platforms, they profit from them in various ways. Such profits may be very small compared to their other



sources of revenue; nevertheless, the overall enormous profits that these companies make could be put to use to tackle this problem more effectively.

Currently the bulk of advocacy effort by large NGOs is focused on getting big tech companies to take action against illegal wildlife traders on their platforms. So far these efforts have succeeded in securing public commitments under the Global Coalition to End Wildlife Trafficking Online. The members of the Global Coalition have committed to reducing wildlife trading on their platforms by 80% by 2020. However, there does not appear to be any baseline against which progress will be measured, and it is not otherwise possible to gauge the actions that these groups have taken to date. Nonetheless, working to support or cajole these companies into better addressing this phenomenon is important for cutting off some of the major avenues for the marketing and trading of species threatened with extinction.

Closing down individual platforms will not eradicate the trade, but it will significantly hamper the ability of traders to operate efficiently, driving them onto forums – or, with enough enforcement pressure, the dark web – where they will have greater difficulty marketing their products to new potential consumers. Coupled with suitable public-communications campaigns, shutdowns might also play an important role is signalling the seriousness of the issue to tech companies, by placing IWT on the same level as other matters they have been forced to take action against – such as the online sale of counterfeit goods and the proliferation of groups promoting extremist or violent ideologies on social media.

## Finding and identifying illegality

One of the key challenges facing anyone seeking to disrupt the illegal online trade in wildlife is being able to find all the sites (or at least the most significant sites) on which transactions occur or through which the trade is facilitated. As far as transactions are concerned, a second challenge lies in determining that the product up for sale is in fact being traded illegally.

The Digital Dangers publications have offered examples of instances where species-specific knowledge can yield good indicators of illegal trade and help to make such determinations. Breeding or propagation claims are a good starting point. In the parrot trade, one possible way of investigating whether commercial breeders are making legitimate claims about their birds being captive-bred is by understanding the prospects that each species has for successful captive breeding. For example, the experience of breeders of the salmon-crested cockatoo suggests that captive breeding of these birds is highly difficult, to the extent that it was once thought to be essentially impossible. By contrast, the Goffin's cockatoo can, in the right conditions, be bred in captivity. These dynamics provide a simple, initial, basis for assessing the plausibility of an online trader's claims.

A similar approach can be applied to the orchid trade by understanding the propagation times of plants. If an orchid is newly advertised (and therefore popular with collectors), it may be impossible for the plant to have been legally cultivated in time for the sale. Some species of orchid take up to 66 months to meet the CITES definition of a plant that has been artificially propagated. Information about provenance can also be gleaned from images of the product (provided they are real). Photographs of orchids, for example, can be checked for signs that the plants have been wild harvested, such as broken or damaged roots, natural substrate still attached to the roots, or leaves and flowers that look to have been damaged by natural pests.

However, we also need automated and intelligent methods of detection able to perform the task of finding transactions – as well as communities and forums that otherwise support illegal trade – and helping to flag sites that are likely to carry illegal trade. David Roberts and Julio Hernandez-Castro have demonstrated how metadata can be scraped to reliably identify illegal ivory transactions on eBay.<sup>49</sup> Additionally, Enrico Di Minin et al. have devised platform-specific search methodologies, which make use of API (application programming interface) data to detect posts related to IWT and which could also be used for sentiment analysis to track the attitudes of users towards wildlife consumption.<sup>50</sup> Meanwhile, other academics and NGO-based researchers are working on developing more intelligent image-recognition software in order to, for example, recognize the faces of chimps in online advertisements.<sup>51</sup>





Our own intervention, the DDDE, was developed with the aim of building upon qualitative research to produce larger, more comprehensive datasets of similar kinds of activity taking place. It is hoped that this will contribute to the creation of a more comprehensive picture of online IWT activity. The DDDE's ability to trawl through a large number of sites and produce smaller yet still comprehensive and relevant subsets of data is intended to complement other forms of research on online environmental crime.

#### The internet as an excellent tool for open source information gathering

Social media and e-commerce currently offer a way for us to monitor online retail markets and, perhaps more importantly, to identify new trends and marketing campaigns for illicit wildlife products. This is a reflection of the reality that, in many cases, consumers and traders are doing little to obscure their illegal activities, and a large number of the sites used and exchanges conducted are discoverable on the surface web. The DDDE has also shown promise in detecting transaction-related language that has been obscured by code words or euphemisms.

## Raising the political profile of IWT

Illicit wildlife markets are not only hidden because criminals are wont to disguise their activities, they are also hidden as a result of the low political 'ranking' of environmental crime. There are big gains to be made against IWT if we can raise its political profile by demonstrating the corrupting effect it has on state authorities and the transport sector, as well as the complicity of tech platforms and the trade's serious environmental impact.

Journalists, and civil society more broadly, have a key role to play in this regard. The case for spending taxpayers' money on addressing the illegal wildlife trade relies on illustrating its effects. A sole focus on digital platforms is unlikely to produce this. At present, digital platforms serve a purpose primarily in the final stages of the IWT value chain – that is, at the point of retail. Investigation needs to be conducted into the earlier stages of the chain in order to show how IWT relates to organized crime, to elucidate the overlap between licit and illicit trade, and to demonstrate the trade's impact on biodiversity, local communities and, perhaps most importantly, corruption levels.

Media investigation that exposes how IWT contributes to serious and petty corruption, compromises important transport infrastructure and criminalizes communities, as well as improving public awareness of these factors, may well increase the pressure on authorities to apply more political will to tackling environmental crime. Demonstrating how private platforms profit from IWT and measuring how tech companies live up to their public commitments could open up an important space for consumer pressure to come to bear on their actions.

## Working directly and indirectly with law enforcement

Underlying all of these challenges is the problem of the ambiguous and complex legal framework for cyber-enabled IWT. Its lack of clarity increases the cost and complexity of law-enforcement action against online traders and reduces the incentives for platforms to deal decisively with illegal trading. A coherent and effective response will require strengthening regulatory frameworks at both national and international levels. Consistency in legal frameworks across borders is a foundational principle of interoperability necessary for the enforcement of transnational and multijurisdictional crime. To this end, it is important to establish a universal convention covering, but perhaps not limited to, cybercrime.

The establishment of rationalized and effective regulatory frameworks for this issue is a long-term goal. In the meantime, law enforcement (and other actors who play a role in regulation) may need support while they devise a response to online markets in the context of inadequate political and legal standing and with limited resources. There is already a cohort of wildlife-crime NGOs that are doing effective work supporting investigations by



Global Initiative Against Transnational Organized Crime In search of cyber-enabled disruption

law-enforcement units in developing countries. Our partners in this project, the UN Office on Drugs and Crime and INTERPOL, are themselves doing capacity-building work and providing technical assistance to improve global cyber enforcement capacity and support investigations into digitally enabled wildlife crime.

## Changing norms and tackling online social processes

This synthesis report has highlighted the culpability of major online platforms, such as Facebook, eBay and WeChat, in facilitating the selling of endangered wildlife. However, it is important to realize that conducting illicit trade requires a customer base that is socialized into the norms, practices and practicalities of the trade, knowing, for example, the desirability of owning a rare lizard or the use of pangolin-scale products to treat lactation problems. The networks that promote the trade and consumption of wildlife products are ultimately platform-agnostic – they move to where consumers are, and to where it is easiest to conduct business, with no loyalty and with negligible investment in using a particular social-media site, online forum or e-commerce platform.

As Thomaz points out in his paper on the dynamics of illicit online markets, focusing on particular platforms may mean missing the essential character of digitally enabled IWT, which is that it is driven by the internet's power to make new connections at geographic remove, and do to so instantaneously. Targeting one platform alone 'would underestimate the scale of the issue: such connections are possible, and they exist, across the entirety of the surface web, wherever people are able to interact and congregate online.<sup>52</sup> Thomaz cautions responders to distinguish between the enabling technologies and platforms, and the social processes taking place there: 'Successful interventions in the area of IWT are likely to focus on the latter – the social processes and the underlying consumer psychology – rather than platform control and regulation, as that would serve only to displace the location of the network, rather than stop it functioning.<sup>53</sup> These networks will remain crucial even if IWT shifted from the surface and deep web to the dark web – trades protected by added secrecy are limited in their advertising reach and will still rely on surface-web communities to educate consumers on how (and why) to conduct dark-web transactions.

Wingard and Pascual also highlight the complexity of the 'norms' surrounding illegal trading, cautioning us against focusing on traders to the exclusion of consumers:

What is clear is that any focus on only one side of the transaction is important both for the loophole it creates, as well as the likely impact on purchasing behaviour that continues to drive illicit trade. [...] It stands to reason that if consumers can act with impunity and continue to openly seek a product, suppliers will certainly find a way to get it to them.<sup>54</sup>

Both reports point to the fact that disruption efforts cannot only target traders. Activities that seek to change consumers' beliefs or disrupt the forums that socialize them into consuming illicit wildlife products are an important, if complex, means of intervention. An existing – and rapidly evolving – body of work on 'consumer behaviour change' and demand reduction with respect to IWT may provide a starting point for efforts aimed at specific online forums.<sup>55</sup> The body of practice built up in dealing with other online crimes – such as child pornography and counterfeit goods – may also hold lessons for IWT.

As is increasingly recognized with regard to other illicit trades, such as narcotics and human trafficking, the approaches most likely to curb criminal behaviour do not lie primarily in punitive, law-enforcement-heavy strategies. Illicit markets can be undermined in creative ways. In the West, at least, changing demand for wildlife products has had more of an impact on reducing illicit trading than regulation has.<sup>56</sup> Social media present possibilities in this regard, not just challenges: they offer the chance to inform and educate consumers, and the opportunity to monitor and unpick the mechanisms that make trade networks and IWT markets tick.<sup>57</sup>



# Tackling the enablers

In most industries there are 'bottleneck' systems in place that enable goods and services to change hands smoothly. There are always fewer companies processing payments or moving goods than there are suppliers (or else the market becomes dysfunctional), and it stands to reason that significant disruption to an illicit trade can be achieved at such pinch points. For digitally enabled IWT, these enabling services are transport companies; parcel, courier and mail services; companies providing hosting services; and online payment mechanisms.

Payment type	Nature and regulation
E-wallets and payment intermediaries	Diverse field, including PayPal, WeChat Pay, Alipay, Google Pay, etc. Smaller providers are also proliferating enormously in domestic markets. Regulatory oversight varies. PayPal has established anti-money-laundering policies and claims to comply with all applicable regulations; Chinese e-wallets are being brought under closer regulation by the Online Settlement Platform for Non-Bank Payment Institutions. Domestic regulations elsewhere vary.
Card payment networks	Dominated by the Visa and MasterCard networks. Prominent in Western digital markets, the networks impose their own policies on participating banks and comply with financial regulations.
Direct deposit	Payments between banks via computer networks such as ACH in the US and SEPA in the EU. Subject to financial regulations in the respective regions.
Crypto currencies	Largely anonymous currency based on blockchain technology. Minimally regulated at present.
Mobile money	Popular in sub-Saharan Africa. Allows users to transfer credit on mobile phones between service providers or individuals without the need for a bank account. Users can be identified by their mobile accounts, and transaction sizes are limited.

#### Table 1: Types of digital payment systems

'Follow the money' is currently a popular mantra in the fight against the illegal wildlife trade. However, it is not clear how to apply to this traders who engage on online forums, bar through the digital payment systems via which online transactions are primarily conducted. Following the kinds of methods used in cracking down on other forms of cybercrime, one could envisage using systems or protocols for providing the identities of illegal wildlife traders (when these can be established) to payment service providers in order to have their services withdrawn. However, our Cut the Purse Strings report on digital payment systems and cyber-enabled IWT describes how the wide variety of payment systems and varying levels of regulation around the world complicate efforts to target traders in this



way. Not only are different payment systems prevalent in different parts of the world, but traders and consumers usually have the option of several different forms of payment for online goods. The increasing use of e-wallets is held up as a particular problem, most notably the systems offered by Tencent's WeChat, such as WeChat Pay, which are integrated into social-media channels.

In many cases, as the report's author, Rupert Horsley, argues, it may be ineffective to target the illicit trade in wildlife through payment service providers, due to the fractured nature of e-payments and the lack of a clear typology or list of red flags for the online IWT. However, he also suggests that recent moves to increase financial regulation in China, for example, may make these systems less attractive to traders:

The establishment of the Online Settlement Platform for Non-Bank Payment Institutions in China is particularly relevant in this light. This clearing house will bring together payment service providers and create a platform that shares transaction information. Hence, it may provide an opportunity for cooperation between all the major non-bank payment service providers in China and online monitoring programmes, such as the one developed by TRAFFIC, to deny wildlife traders access to payment services. Importantly, the clearing house is comprehensive, meaning that an effective campaign to shut down offending accounts would leave little room for traders to use other means to collect payment – at least in China.<sup>58</sup>

Other suppliers may offer more productive entry points for disruption, such as working with transport and courierservice companies, as some NGOs are already doing. Following insights gained from a mixed methodology study, of which social-media monitoring was a large component, World Parrot Trust and World Animal Protection are engaged in lobbying specific airlines that are highly implicated in the transport of poached African grey parrots at wholesale volumes.<sup>59</sup> The authors of the study emphasize the need for transport companies to implement preventative measures, such as the training of staff to detect illegal shipments, the creation of safe and rewarding environments for whistle-blowers, and the development of mechanisms to facilitate the rapid sharing of information with customs officials and other law-enforcement authorities. There are several multi-stakeholder alliances engaged in capacity building and advocacy in this regard.<sup>60</sup> This remains a key area to watch for progress.

In addition to the measures outlined above, hosting services and other 'behind-the-scenes' internet service providers, which provide more basic and fundamental infrastructure and software than do social-media and e-commerce platforms, could also put pressure on – or create friction for – illicit trading.

# Staying ahead of market evolution

A final point to make in regard to disruption is that illicit markets are notoriously adaptable, as long as profits stand to be made. With this in mind, a word of caution should be issued about the paradox of tactical 'success' in seeking to shut down illicit online trading. If our efforts are successful at encouraging a greater crackdown on illicit surfaceweb activity, then traders and consumers will be forced to find greater levels of privacy under which to operate. If enforcement is successful at shutting down platforms, rather than dismantling trade networks or undermining consumer demand, then some wildlife commodities are likely to end up on the dark web.<sup>61</sup> Such a shift would have implications for illegal traders. As Thomaz describes: '[E]ach step in the criminals' attempts to safeguard their markets will lead to certain benefits for those who operate in them, but, as the markets get forced into the dark net, it will come at the cost of an overall diminishing market. As IWT enters the dark web, the market sheds consumers along the way as a result of dwindling interest and the need for greater technological aptitude to keep pace with the changing market.<sup>62</sup>



However, this shift to the dark web will not necessarily reduce the size of the market. Instead, it could have the effect of merely changing where illicit transactions take place, as opposed to achieving a meaningful reduction in harmful behaviour. A shift to dark-web trade could lead to greater organization around consumers and better outcomes for criminals, who might achieve greater operational efficiency this way. As Thomaz argues: 'It is to be expected that this coordination and profitability will result in a greater prioritization of wildlife trade in the portfolio of criminal organizations.'<sup>63</sup> Regulators and enforcement agencies will need to anticipate such shifts and seek to mitigate the amount that criminals can gain from them.

#### Figure 6: The trajectory to the dark net



- Current online IWT: the market in wildlife products currently takes place mostly in plain view, on the surface web (trading websites, open listings) and the deep web (private messages and trading groups). The trade is disaggregated and the distinctions between small-scale and wholesale suppliers are blurred.
- 2. **Centralized dark web markets:** in response to increased pressure, traders first move away from the easily observable surface web and into centralized DNMs. This increases market cohesion and allows customers to search more easily. However, many customers and vendors will not commit to the more complex technology required to access these forums.
- 3. **Specialized smaller dark web shops:** increased law-enforcement pressure, the costs of administering DNMs, competition between DNMs and erosion of trust all contribute to the breakdown of the market into smaller storefronts. This affords vendors greater privacy, as all communications become encrypted one-on-one conversations, but the costs of searching for customers is increased.



- 4. **Markets by invitation:** the next step is for marketplaces to form that allow access only to those invited to participate. This is an effective safeguard against police infiltration, yet the cost is a loss of market membership, as some are unable or unwilling to prove themselves worthy of entry.
- 5. **Distributed peer-to-peer marketplaces:** this stage is hypothetical and dependent on technology currently being tested. These marketplaces would use blockchain technology and smart contracts to create a distributed marketplace that does not rely on any single individual to continue operating. All communications within the marketplace could be encrypted through the same technology. If proved successful, this form of marketplace could replace many of the activities in stages 1 to 4.

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#### Notes

- 1 India is ranked second in terms of numbers, and Brazil also makes the top five. Data taken from Statista. More information on internet and socialmedia access in Indonesia can be found at https://www.statista.com.
- 2 China figures do not include SAR Hong Kong, SAR Macao or Taiwan, which are reported separately for statistical purposes. Internet World Stats: Usage and Population Statistics, https://www.internetworldstats.com/stats.htm.
- 3 Online shopping (or online retail), which entails business to consumer transactions, is the best-known form of e-commerce, but the phenomenon can also encompass other transactions.
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- 5 Wildlife cybercrime predominantly manifests through online marketing or sales of prohibited wildlife, but can, in theory, encompass a broader range of offences, such as the creation of fraudulent digital CITES certificates.
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- 8 Simone Haysom, Digitally enhanced responses: New horizons for combating online illegal wildlife trade, Global Initiative, 2018, https://globalinitiative.net/digitally-enhanced-responses.
- 9 In some places, there are clear indications that although physical marketplaces and retail outlets still dominate, the online trade is becoming increasingly important, or else that the physical and virtual are, again, not entirely distinct. TRAFFIC conducted three surveys of the ivory trade in Vietnam during 2016 and 2017, covering 852 physical outlets and 17 online platforms. Their surveys recorded a minimum of 10 549 and a maximum of 13 460 ivory items for sale, with a split between physical outlets and online sellers of 6 186–9 097 (physical) vs. 4 363 (online). The report also mentions an overlap between physical and online outlets: 'In eight instances online sellers were either linked to physical stores or physical stores were also selling their items online.' See Minh DT Nguyen, Rosa A Indenbaum and Madelon Willemsen, From tusk to trinket: Persistent illegal ivory markets in Viet Nam, TRAFFIC, 2018, https://www.traffic.org/publications/reports/from-tusk-to-trinket.
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