TRAFFIC
REPORT

DEADLY MESSAGING
Illegal ivory trade in China's social media

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Guan Jing, Xu Ling

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EXECUTIVE SUMMARY

The rapid growth of Internet technology has not only offered an effective platform for communication, but also brought convenience and access to information to many people around the world, but it has also been utilized as a channel for some criminals to engage in illegal activities. In previous TRAFFIC research, a large amount of endangered species products were observed in domestic e-commerce and antique/collectable websites in China. As a result of stricter enforcement and management by the government authorities and concerned websites, TRAFFIC identified that traders of illegal wildlife products are increasingly shifting from websites to social media networks. These social media networks offer higher privacy and, thus, represent challenges for enforcement and monitoring.

"WeChat" is a free instant messaging, social networking and content-sharing application for smart devices which was launched by Tencent in early 2011. As China's, and even Asia's, most popular social media platform, WeChat has now become a major commercial trading platform. It is also used by illegal traders to advertise and sell ivory and other endangered species products. WeChat users can make use of the public platform, Friends Circle/Moments, for news sharing/forwarding and other functions to post or publish text, pictures or videos of various products, which might include illicit goods such as endangered species and their products. Until recently, the use of social media platforms for illegal sales of endangered species products has not been well controlled or acted upon through adequate law enforcement efforts or effective enforcement tools.

Through online trade monitoring of endangered species, TRAFFIC has found that more and more traders are shifting their website selling platforms to WeChat in order to take advantage of higher levels of privacy. In order to get a better understanding of the characteristics of illegal trade in endangered species on WeChat, and to support Tencent and relevant law enforcement agencies to combat wildlife trade crime effectively, TRAFFIC has investigated 58 illegal ivory traders' WeChat accounts by monitoring their Friends Circle/Moments three times a week from May to July 2015. In this context, TRAFFIC has been using ivory trade as a case study for trade of endangered species products. The text of advertisements, pictures and videos have been assessed for information related to illegal ivory trade through WeChat and recorded in detail. This allowed a comprehensive analysis of the processes and key features of illegal ivory trade using WeChat platforms.

The key research results from this initiative are as follows:

1. From May to July 2015, 58 identified WeChat accounts were assessed on 47 occasions, and a total of 10,650 advertisements of illegal ivory trade, consisting of 57,479 pictures and 580 videos, have been recorded. The average number of records per survey has been 227 advertisements of illegal ivory trade, containing 1,223 pictures and 12 videos. It is, however, very challenging to reliably quantify the total number of individual ivory pieces on WeChat, because traders offer individual pieces repeatedly and on various pictures and videos, at the same time – pictures might be swiftly deleted or removed (without confirmation of actual transaction). Regardless of total amounts, it can be concluded that trade levels are significant.

2. During the fifth week of the survey, the volume of illegal ivory advertisements dropped markedly by about 45% due to law enforcement efforts against illegal trade in ivory and other endangered species products by enforcement agencies and Tencent. As a result, many WeChat dealers have stated that "the wind is too strong" recently (in reference to the strict policy of the WeChat management). However, during the 13th week, the volume of illegal ivory advertisements again increased significantly, and some traders even started to establish and publish "backup accounts" to avoid the effects of blocking or restricting business transactions on current accounts.

3. According to the commodity types and the frequency of their appearance in advertisements, ivory traders can be classified into four categories: A. Ivory franchise (13.8%); B. Ivory and other endangered species products franchise (41.4%); C. Collectables including ivory (20.7%); D. Other business, including ivory (24.1%).

4. Illegal trade in ivory products through WeChat includes: A. Raw Ivory tusks or pieces; B. Semi-worked ivory; C. Worked ivory. Trade in worked ivory comprises about 90% of the monitored market. However, this does not represent the actual trade quantity because many ivory tusks are possibly shown in a single photo or video. Generally, only worked ivory has been observed for sale in physical or online (website) markets during TRAFFIC's previous surveys, but through WeChat channels, raw or semi-worked ivory is also available.

5. The price of ivory varies by type of ivory being sold as follows: CNY9.1±2.2 per gram for raw ivory tusks or pieces; CNY7.4±3.4 per gram for semi-worked ivory; CNY32.2±10.0 per gram for worked ivory without carving (generally consisting high-quality ivory material); and CNY29.1±7.9 per gram for worked ivory with carving (generally consisting of lower quality material and carving – e.g. 3D engraving technology). For worked ivory, prices on WeChat were about 25% lower than those for similar items found for sale in illegal physical markets in China.

6. The main trading procedure can be outlined as follows: Adding 'Friends' -> Advertising -> Price negotiation -> Transfer/payment-> Delivery. Traders post ivory photos or videos in the Moments section of their accounts and other channels on WeChat, in order to avoid Tencent's inspection; products are generally labelled with price without negotiation; traders accept payment via WeChat's wallet or bank transfer; and in the end, the ivory is delivered through courier companies.

7. The ivory transaction chain on WeChat consists of six steps: raw ivory trading, preliminary processed, detailed or finished processing, wholesale/retail, agents and end-market.

Based on the above results, TRAFFIC suggests the following recommendations:

• Relevant law enforcement and administrative agencies should strictly implement the Criminal Law Amendment (ix) of the People's Republic of China, and combat and punish illegal traders who advertise or otherwise support illegal trade in ivory or other endangered species products through social media platforms.

• Law enforcement agencies, especially Forest Police, should strengthen cooperation with local police and Tencent to research and develop new technologies and methods for combating wildlife cybercrime based on the characteristics of illegal online trade in ivory and other endangered species products.

• As the illegal ivory trade which TRAFFIC is actively monitoring is just the tip of the iceberg in terms of the overall trade in endangered species through social media platforms, TRAFFIC suggests that Tencent follow the example taken to prevent advertising of drugs, weapons or pornographic goods. These include the establishment of effective systems for combating and preventing wildlife crime through social media channels, and the improvement of identification technology for identifying endangered species products in pictures and videos.

• Tencent and law enforcement agencies should actively combat those traders who apparently specialize in selling ivory and/or other endangered species products through WeChat, but also strive to educate others who mainly sell an array of collectables and other commodities to help them realize the seriousness of such cybercrime in order to stop the ivory trade.

• Tencent should use its own social media platforms in order to strengthen public awareness for wildlife conservation and strictly prohibit the illegal trade of endangered species products on its platforms;

• As the crucial link between buyers and traders in online trades, courier companies should strictly implement the relevant rules and diligently check parcels during the pick-up process to prevent moving any endangered species products inadvertently. Likewise, courier companies should work to detect endangered species products during the parcel scanning process at distribution centres and consider the use of sniffer dogs who can detect wildlife commodities at parcel distribution centres. Training programmes for courier companies to strengthen their internal regulatory capacity for illegal trade in endangered species products should also be undertaken;

• TRAFFIC and other NGOs should make use of their insights and technological experiences to support websites and social media managers to strengthen routine monitoring of illegal trade in ivory and other endangered species products.

• Tencent should work with TRAFFIC and other NGOs to develop the protocols against illegal trade in ivory and other endangered species products on WeChat, which can be used by other social media companies.

• The Chinese authorities, Tencent and TRAFFIC should work together to reduce demand for ivory and other endangered species products through measures that serve to guide and change current consumption behaviour. This will help effectively implement the Sino-US agreement on "phasing out domestic ivory trade," which will ultimately serve the objective of protecting African elephants.

• The Chinese model of cooperation between NGOs, social media and e-commerce platform managers and law enforcement agencies is an effective tool in combating illegal wildlife trade. This model should be replicated in other wildlife trade hotspots and to other relevant social media and e-commerce platforms.

GLOSSARY

Collectables 文玩
— slightly different than antiques, typically art pieces that relate to culture or religious elements, mostly made of wood, plant parts or stone, and possibly animal products;

Ivory 象牙
— Elephant ivory;

Ivory Advertisements in Moments 朋友圈象牙广告
— the information such as text, pictures, videos and any other forms that meant for ivory product marketing which are posted by traders via Moments;

Raw Ivory 原牙
— whole ivory tusk or pieces without any processing;

Semi-worked Ivory 象牙半成品
— unfinished ivory products that have been preliminarily processed into simple shapes, e.g. cylinder, sphere, rectangular and etc.;

Tencent 腾讯
— WeChat operator; one of China's largest Internet service providers. It is also one of the Chinese

Internet services with the highest number of users, providing a wide range of services, including social and communication services such as QQ and WeChat; social networking platform -- Qzone, QQ game platform, as well as portal website, news, videos, etc.;

WeChat 微信
— (Weixin in chinese)-A popular mobile communication app on smart phone, able to send and receive free text, voice, images, video and location information and other social media functions as well. WeChat in the report refers to the service in the Chinese rather than overseas market;

WeChat Friends 微信好友
— WeChat contacts after mutual authentication;

WeChat Groups 微信群
— A multi-communication function on WeChat, and users in the same group can share text, voice messages, pictures, short videos through this group even if they are not Friends. They can also add each other as Friends;

WeChat Moments 朋友圈
— A social communication function on WeChat, which is used to keep in touch with Friends, family, colleagues and people around. Users can post text, photos, short videos and other forms of information in their Moments. This information will automatically appear in the WeChat Moment's wall, allowing Friends to "comments" or "likes";

WeChat Moment's Cover 微信朋友圈相册封面
— shown on the top of Moment's wall, a photo to represent individual personality;

WeChat Name 微信名字
— nickname for identity authentication on WeChat;

WeChat Profile Picture 微信头像
— customized photo on WeChat for identity identification;

WeChat Subscription Account 微信订阅号
— subscription-based news service on WeChat;

WeChat Shop 微店
— an app that helps traders to open online shop, and the shop can be created via mobile number and it could be shared to WeChat Moments with just a click;

WeChat Transaction 微信转账
— a payment method through WeChat;

What's Up Status 个性签名
— a simple personalize statement to be displayed on WeChat profile information;

WeChat User ID 微信号
— unique identification number in WeChat system, able to be used to search for Friends on WeChat;

Worked Ivory 象牙成品
— finished ivory, which can be sold directly in an end-market;

BACKGROUND

Illegal wildlife trade is a serious global crime, especially illegal ivory trade: every year, around 30,000 elephants are killed (G. Wittemyer et al., 2014). The Elephant Trade Information System (ETIS) has confirmed that China, as a major ivory consuming country, plays an important role in the illegal ivory trade most recently in the comprehensive report to CITES CoP 16 (Milliken T et al., 2012). On 25th September 2015, the United States of America and China made the joint commitment to enact nearly complete bans on ivory import and export (including taking further measures to strictly restrict the import and export of ivory hunting trophies) and to phase out the domestic commercial trade of ivory.

WeChat, China's most popular mobile social networking platform today (as of September 2015), has attracted 650 million monthly active users, covering more than 90% of the country's smart phones and directly facilitating sales transactions worth some CNY11 billion. With technological innovation, WeChat is no longer just an instant messaging tool, but has become a "toolbox" with functions of communicating, social networking, shopping and independent payment, which facilitates many aspects of its users daily lives.

Since 2012, TRAFFIC has monitored the endangered species trade in 25 domestic e-commerce and antique/collectable websites, tracking eight wildlife product categories-ivory, rhino horn, Tiger bone, Hawksbill shell, pangolin scales, Leopard, Saiga horn and hornbill casques (Xiao Yu & Wang Jia, 2015). Ivory products made up more than a half of identified advertisements. TRAFFIC regularly provided survey results and conducted a series of training initiatives for platform owners or managers who are responsible for blocking/filtering illegal trade information. These efforts resulted in a significant decline in the number of illegal online wildlife advertisements which then remained stable at a lower level after that. The total amount of illegal wildlife product advertisements at monitored sites decreased from an initial average of around 40,000 posts/month to constantly below 10,000 posts/month. This represented a decline of about 75%, even though the scope of the monitoring activities was constantly widened. The number of newly published wildlife product advertisements also dropped from 3,000/month to less than 1,500/month. Yet, in the further investigation, TRAFFIC found that more and more illegal traders were shifting to a higher-privacy platform with weak enforcement controls: WeChat. With restricted visitor access, anonymous exchanges, advantages of solitary payment features, WeChat has attracted many illegal business dealers who previously operated through traditional websites. In comparison to traditional websites, the personalized features that make WeChat a preference of for both traders and consumers are as follows:

- Convenient – Able to advertise, browse, communicate and trade commodities on WeChat with only a smart phone, minimize the time and human capital needed for trading business.

- Targeted – traders can choose to add potential consumers into their contacts in order to precisely position the target audience;

- Covert - All communication and payments have no third-party restriction/control, so illegal trade is difficult to detect through normal supervision;

- High degree of freedom – Advertising and trading cannot be regulated and controlled very well, so traders can post and delete information freely.

This research will use illegal ivory trade as an example to disclose the status and characteristics of endangered species trade on WeChat through the monitoring of 58 WeChat accounts. The research recommendations will be given to Tencent and relevant enforcement agencies so that efforts to jointly combat illegal trade in endangered species on social media platforms can be taken.

METHODOLOGY

From 1st May 2014, China had set up a strict management measure on ivory manufacturing and selling in registered locations, and every piece of ivory for sale (regardless of size) must have an ivory collection certificate to certify legal source. According to the SFA's 9th Notice of 2015, a total of 34 manufacturers and 130 shops have been approved to process or sell ivory. Any other ivory shop that is not identified in the document, including WeChat accounts, is considered to be illegal.

In recent years, from previous surveys on domestic ivory physical and online markets, TRAFFIC noticed that a large number of illegal traders were making use of WeChat for illegal ivory transactions. As on WeChat, messaging and browsing posts in Moments can only been done after mutual adding and approval as "Friends". In order to carry out further investigation, TRAFFIC investigators had to register a solitary anonymous user account in WeChat to make "Friends" with traders that had an illegal ivory trading record that had been previously identified through physical market surveys and online monitoring. The operators of the TRAFFIC's account pretended to be a collectables/antique lover to avoid suspicions or being blocked by traders. TRAFFIC's account also aimed to attract more potential ivory traders by using common language/terms when frequently updating Moments with collectable/antique topics (but always making sure that no information was given about endangered species).

By the end of April 2015, TRAFFIC's anonymous user account had added 108 contacts and two "collectable lover" groups. All contacts were added separately, so there is no direct link between them. Then, TRAFFIC selected 58 users as targeted monitoring focus accounts from the 108 contacts, based on the information/texts shared in their Moments. All of these 58 users had posted at least one ivory advertisement within the past two weeks.

For 13 weeks, from 1st May to 31st July 2015, TRAFFIC monitored these 58 WeChat users. Surveys carried out 47 times which included 39 regular checks every Tuesday, Thursday and Saturday and eight random checks. For each survey, TRAFFIC read through all the information released by the user on Moments within 24 hours of the same day, preliminary identification was done for suspected endangered species products followed by detailed recording of ivory and other endangered species trade advertising content, numbers of information, pictures and videos posted, product specifications, prices and sales status, etc.

After 13 weeks of the survey, the results were analysed and a report was prepared. The final report and results of the investigation will be shared with relevant law enforcement agencies and Tencent as a reference for future law enforcement and management.

Since the WeChat system requests mutual authorization and approval before receiving or sending messages, as well as checking on Moments, users are not able to search using keywords, thus, it is not easy to establish contact with a large number of illegal ivory traders in a short period of time. Therefore, the scope of the investigation is limited. The illegal ivory trade on WeChat that TRAFFIC is monitoring is just the tip of the iceberg, and there are likely to be many more traders. Of course, some of the pictures posted in Moments are forwarded from the same source/person, hence, it is difficult to estimate the actual total amount of ivory products being offered on WeChat. Therefore, this research only focused on the analysis of the nature and characteristics of ivory trade on WeChat, but the quantitative scope needs to be extended.

RESULTS & DISCUSSIONS

During the 13-week research, 58 illegal ivory traders via WeChat were monitored. Information posted on WeChat was recorded and analysed as below, including the number of ivory advertisements, product specifications, trader types, transaction methods and chain.

1. Volume Of Ivory Advertisement

During the 13-week survey of 58 WeChat trader's Moments on 47 different occasions, TRAFFIC monitored a total of 10,650 illegal ivory advertisements including 57,479 pictures and 580 videos. An average of 227 advertisements had been observed per survey which consisted of 1,223 pictures and 12 videos.

Table 1: Average illegal ivory advertisements by 58 traders per survey

Number of	Average
Advertisements	226.6±51.9
Pictures	1223.3±274.7
Videos	12.3±8.5

1.1 Volume dynamics over time

During the survey period, illegal traders' information dissemination revealed significant fluctuations which were affected by enforcement activities and other external factors (shown in Figure1).
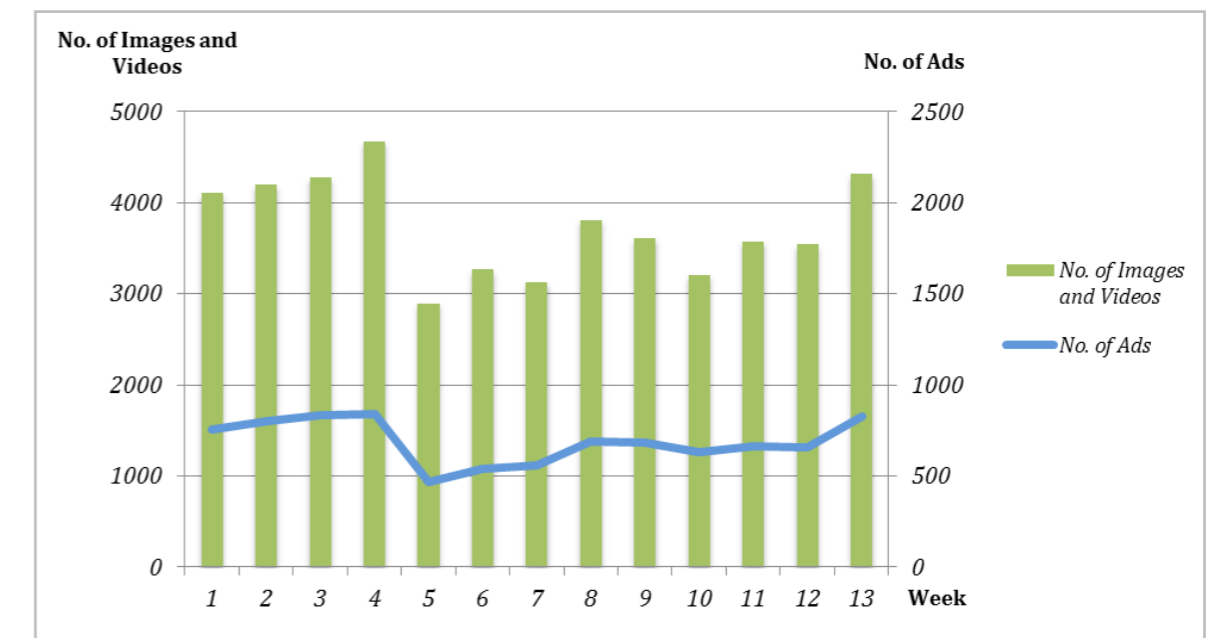

Figure 1: Dynamics in weekly advertisements of illegal ivory trade posted by 58 traders

Figure 1 shows the trend of monitoring results for 58 traders three times in a week. Histograms represent the weekly total number of ivory pictures and videos (both features are combined as they are both product marketing advertisements but in different forms). In the first four weeks, a high level of advertising was observed, ranging from 4,106 to 4,677 and reaching a peak in the 4th week. However, a significant decrease in the fifth week was observed (dropping 38% compared to the forth week) and reaching a lowest point of 2,898. Then the trade volumes increased gradually in the following weeks and returned to the initial level (e.g. over 4, 000) in the 13th week. On the other hand, the blue line shows the weekly total number of ivory advertisements. Similar to the trend for the number of pictures and videos, it was stable at a high level from the first week to the fourth week, at around 800 per week. However, it dropped by 45% from 843 in the fourth week to 464 in the fifth week. Then it grew slowly in the following weeks and again reached the starting level (829) in the 13th week.

Data indicate a significant decline in the fifth week mainly because many traders were aware of the operation by the law enforcement agencies and Tencent. On 21st May 2015, Beijing Forest Police seized two suspects 107 kg of ivory products and 10 ivory processing machines (http://news.sohu.com/20151013/n423056505.shtml). On 29th May, based on Notice of rectification on illegal wildlife products content published on WeChat, WeChat's Public Platform Operation Rules and User Standards of WeChat's Moments, a total of 144 public accounts and 232 personal accounts who posted illegal wildlife product content were blocked and 1,365 posts in Moments were removed (however, none of the accounts which TRAFFIC was monitoring were blocked). Since then, many traders mentioned through Moments that "the wind is strong" (referring to strict WeChat management to curtail ivory trading). On the same day as WeChat's cleaning operation, the Chinese government made a clear stand for "zero tolerance" towards illegal ivory trade by publicly destroying 662 kilograms of confiscated ivory in Beijing. During the fifth week of the survey (30th May to 4th June), the number of illegal ivory advertisements and pictures decreases by about 40%, which indicates that the enforcement activity and cleaning operation had impacted illegal ivory traders. Figure 2 shows that traders discussed and reacted to the operation and communicated the legal risks of ivory trade.

Figure 2: Reactions to enforcement actions on WeChat by illegal ivory traders

Left: "Caution! Don't spend your new year in jail. Forest Police and Network Monitoring Bureau are now combating wildlife cybercrime. They requested to use "zou bao" (another online payment service) to make traders deliver the products. When the products arrive, they track back to the traders based on courier and sender information. They have the chat record, "zou bao" link and the product, which forms a complete proof for sentence. All traders should be aware not to sell ivory in "zou bao", otherwise, you might spend your new year in the jail."

Middle: A. "You are right about the Fujian enforcement operation last time! Yesterday the police in Fujian came to the courier company and took the delivery guy back for investigation."

B. "Emm, that is for sure. Have you arranged everything? Did you tell him what to say?"
A. "Yup, all arranged and good now. He has been released after the questioning. He is back to work today. But I am upset because I can't send the products to you."

Right: "The wind is very strong recently (strict management)! Photos were deleted. WeChat is blocking suspicious accounts, so use voice message if you need to get the product, thanks."
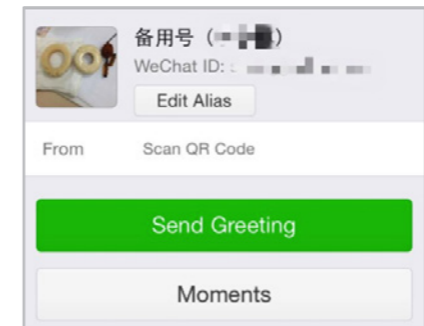

Figure 3: Illegal ivory trader promoting a backup account

However, from the trend in Figure 1, it was observed that the amount of advertisements and number of pictures gradually increased again a few weeks after the operation, by the 13th week it returned to the initial levels. This indicates that the enforcement activity indeed deterred the illegal traders for some time, but it did not really reverse the situation of illegal ivory trade on WeChat. The survey also observed that some traders created and promoted "backup accounts" (shown in Figure 3). In case their current active account is blocked, they still can use this backup account to post illegal information and keep in touch with consumers.

1.2 The number of advertisements released by different traders

In addition to the analysis of the volume of weekly advertisement, the research also ranked and analysed the most active traders. Among the monitored 58 traders, 11 (19%) posted more than 40 ivory photos/videos per day on average. These 11 traders make up 59.4% of the total advertisements. 23 (39.7%) traders posted over 20 ivory photos/videos per day on average. Together, these 23 traders make up 86% of the total advertisements. Figure 4 shows the average upload volume of advertisements, pictures and videos by these 23 active traders.

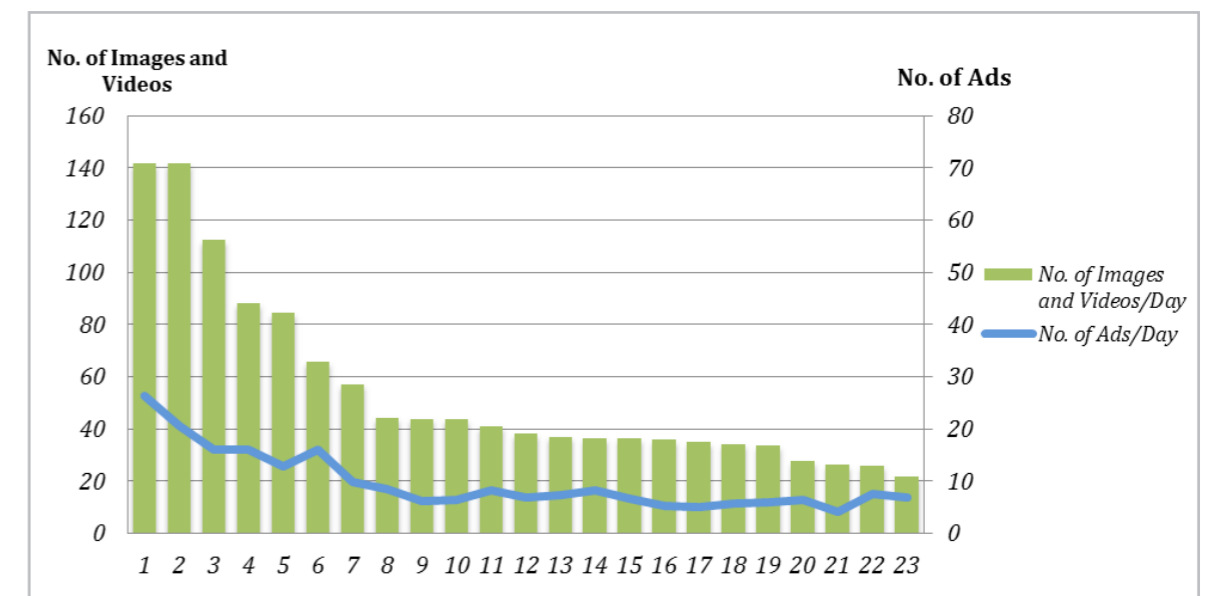Although the number of advertisements, pictures and videos posted by traders are different, it is not

Figure 4: Average daily advertisements of the 23 most active traders

the only standard to evaluate the scale of illegal ivory trade because each advertisement or picture may contain different quantities and qualities of ivory. For example, the leading trader used many photos to describe the details of a small ivory product, as shown in Figure 5a; while other traders show the multiple ivory products in one advertisement, as shown in Figure 5b. These different ways of displaying/advertising ivory products make it difficult to quantify the total quantity on sale.
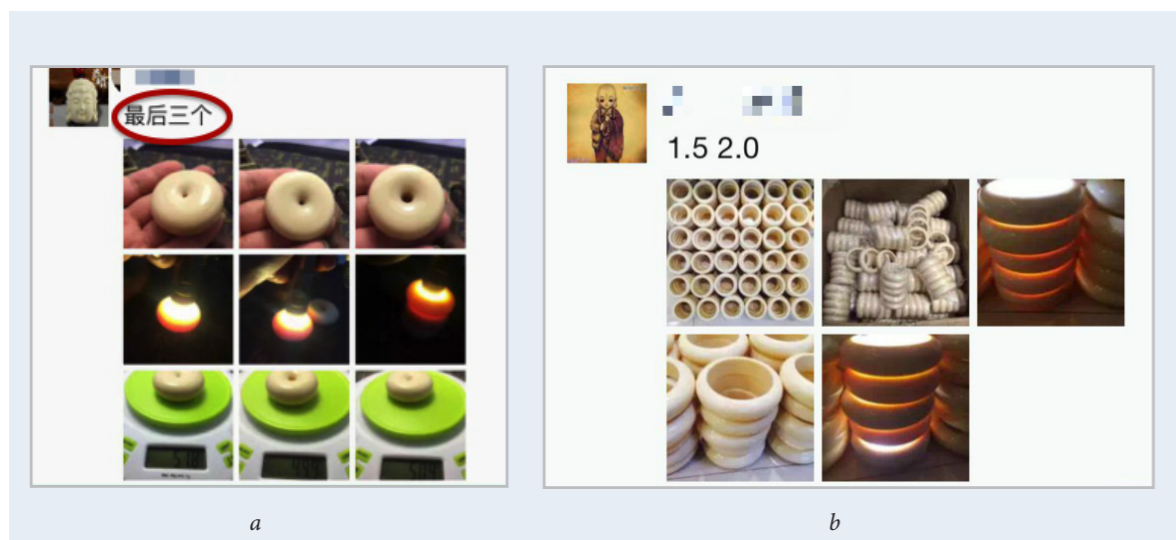

Figure 5: Comparison of ivory quantities in individual advertisements

2. Trader Categorization

Based on the commodity types identified in advertisements, the 58 traders can be divided into four groups:

1. Ivory franchise (13.8%): only ivory products are available in advertisements;

2. Ivory and other endangered species products franchise (41.4%): these traders sold 17 different types of endangered species products, such as ivory, rhino horn, Tiger bone, Hawksbill shells, pangolin scale, hornbill casques, Saiga horns, live monkeys or cachalot teeth;

3. Collectables, including ivory (20.7%): those traders sell various collectables together with ivory (e.g. walnut shell craving and amber);

4. Others, including ivory (24.1%): occasionally post or forward a few endangered species advertisements.

With respect to groups 1 and 2 above (who comprise 55.2% of the total number of monitored traders), Tencent and the authorities should regard them as primary targets for combating illegal wildlife trade; group 2 offers several kinds of endangered species products, so the enforcement agencies should pay even more attention to them. With respect to group 3 and 4, endangered species products are more incidental and are not their major commodities for sale, but they still need to be made aware of the seriousness of wildlife cybercrime (e.g. through advocacy and education programs) and targeted for law enforcement action if they persist with illegal sales.

During the survey, a small number of advertisement of dangerous goods were observed, including controlled knives, (simulate) weapons and etc., which also represents a potential threat to social security and indicates that organized crime networks are involved in social media wildlife crime.

3. Product Categorization

| a. Raw Ivory | b. Semi-worked ivory | c1. Worked ivory without carving | c2. Worked ivory with carving |

Figure 6: Ivory categorization on WeChat

Illegal trading of ivory products on WeChat include three categories:

a. Raw ivory tusk or pieces;
b. Semi-worked ivory;
c. Worked ivory, which is divided into two sub-categories—products without carving, e.g. bracelets and necklaces, and products with carving, e.g. pendants and figurines.
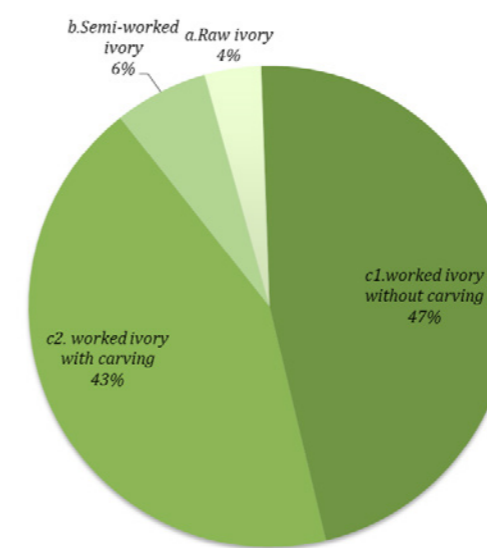

Figure 7: The proportion of 4 categories of ivory products on WeChat

Traders also often post the same products on several pictures, or they post many similar pictures – which could show either the same product or several new products. The variance in number and type of ivory products is significant, so it is impossible to count the total number and weight of each category of ivory products on WeChat. The frequency of each category is shown in Figure 7. At 90%, worked ivory products accounted for the highest percentage of items offered, including 47% worked ivory without craving and 43% worked ivory with craving. Semi-worked ivory was observed in 6% of the advertisements, while raw ivory was only 4%. Although raw ivory only appears in 4% of the pictures or videos, this does not indicate the actual volume, because normally there are many raw ivory tusks in a picture (for example Figure 6a shows nine ivory tusks in a single photo).

In the traditional physical markets and websites that TRAFFIC has monitored, only worked ivory can be observed, but on WeChat there are also raw ivory and semi-worked ivory products on sale.

4. Price Comparison

Unlike physical markets and other online markets, WeChat Moments' audiences need to be added through user authentication. In these WeChat Moments, most users are people with a good understanding to ivory industry, so the posted information content has a relatively high transparency and reliability. In these circles, many users have a good understanding of the ivory industry, so a relatively high transparency and reliability of the posted information content was observed. Thus, one advantage of WeChat monitoring is the transparent access to market prices. Some traders share the price information for different categories of ivory in their Moments, some even put such information on their Moments wall cover (see Figure 8).
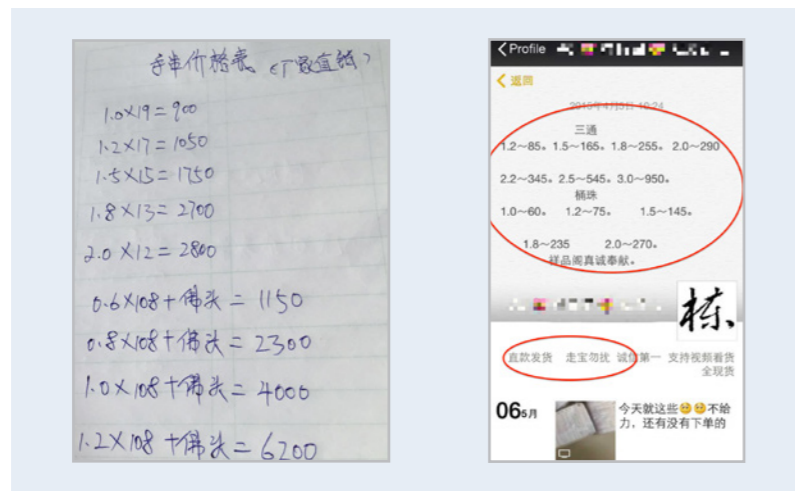

Figure 8: Ivory price information released in Friends circle/Moments

Left: Price list of bracelets & Buddha head(factory outlets)

Right: D=1.2cm, CNY 85
　　　Direct (direct payment) accepted, "zou bao" . No thanks!

The price varies from raw ivory to worked ivory (Table 2). Compared to the results of TRAFFIC's previous physical market surveys for illegal ivory products, the overall price of worked ivory on WeChat is around 25% lower than in physical markets.

The price variance between carved and non-carved ivory is not significant, which mainly results from the availability and use of numerically controlled 3D engraving technology. These machines are gradually replacing high-cost manual carving (Figure 9). Recently, many ivory carvings are no longer produced by hand, but by those low-cost engraving machines. On 21st May, ten ivory processing machines were confiscated by Beijing Forest Police – indicating 3D engraving machines that are increasingly being used for the processing of ivory. These machine-made products do not carry the traditional and cultural values of artistic manual carving, but they are cheaper. It should be noted that the monitored "worked ivory without carving" generally consist of high quality solid ivory parts and that "worked ivory with carving" generally consists of lower quality carving (e.g. 3D engraving) and ivory materials.

Table 2: Average monitored prices for different types of ivory products on WeChat

	Average price (CNY/gram)	Standard deviation (CNY/gram)	Sample size	Average price from TRAFFIC's physical market surveys from 2012 to 2014 (CNY/gram)
Raw ivory	9.1	±2.2	n=7	—
Semi-worked ivory	7.4	±3.4	n=23	—
Worked ivory without carving	32.2	±10.0	n=18	42.3
Worked ivory with carving	29.1	±7.9	n=29	38.5

Table 2 also shows that the price of non-carved ivory is three times higher than that of the raw ivory. Transforming raw ivory into worked ivory products requires only simple machine cutting and polishing. High profits can be achieved during processing and sale – these profits stimulate ivory traders to take business risks.

Figure 9: Ivory being processed by machine and worked ivory

5. Transaction Flow

The transaction flow for all goods including ivory and other endangered species products is basically the same, it consists of the following five steps: Adding 'Friends' -> Advertising -> Price negotiation -> Transfer/payment-> Delivery (Figure 10).
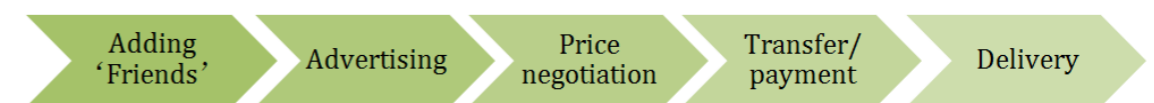

Adding 'Friends' → Advertising → Price negotiation → Transfer/payment → Delivery

Figure 10: WeChat transactions flow

5.1 Adding "Friends"

Add current and potential ivory buyers as "Friends". In order to sell ivory in a private space, ivory traders add more potential ivory consumers through face-to-face communication, WeChat or QQ group chat, WeChat subscription, Friend's introduction, forums, websites, blogs and other public platforms. Some traders use ivory pictures as their profile picture or add elephant emoji icons on their WeChat names to indicate that they are processing and selling ivory in their 'What's Up' statement.

5.2 Advertising

Traders usually post ivory pictures or videos in the Moments section, including number, types and other information. Some traders show all of their ivory products, including those sold and for sale in order to prove their good business reputation. Some traders as stated above in "4. Price Comparison" post price details directly in their Moments section.
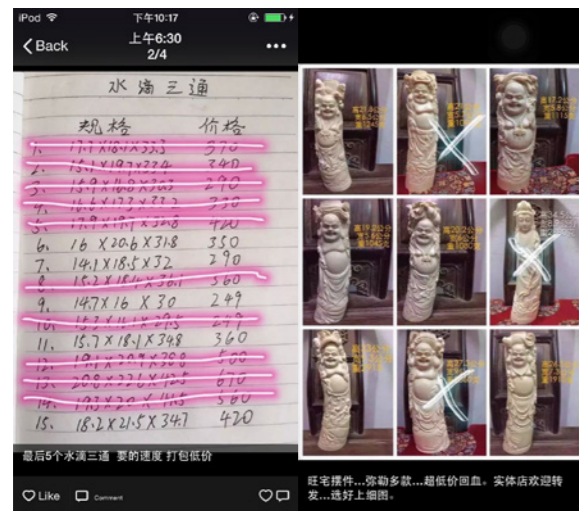
Other than Moments, a lot of traders use private message, group chat and other channels to post advertisements. The survey also found that additional WeChat functions are used for advertising, for example, specific product information can be hidden in subscription accounts (Figure 12). Meanwhile, third-party apps, e.g. WeChat-shop, Micro-photo and WeChat communities aiming for social interaction, are also used for ivory advertising.
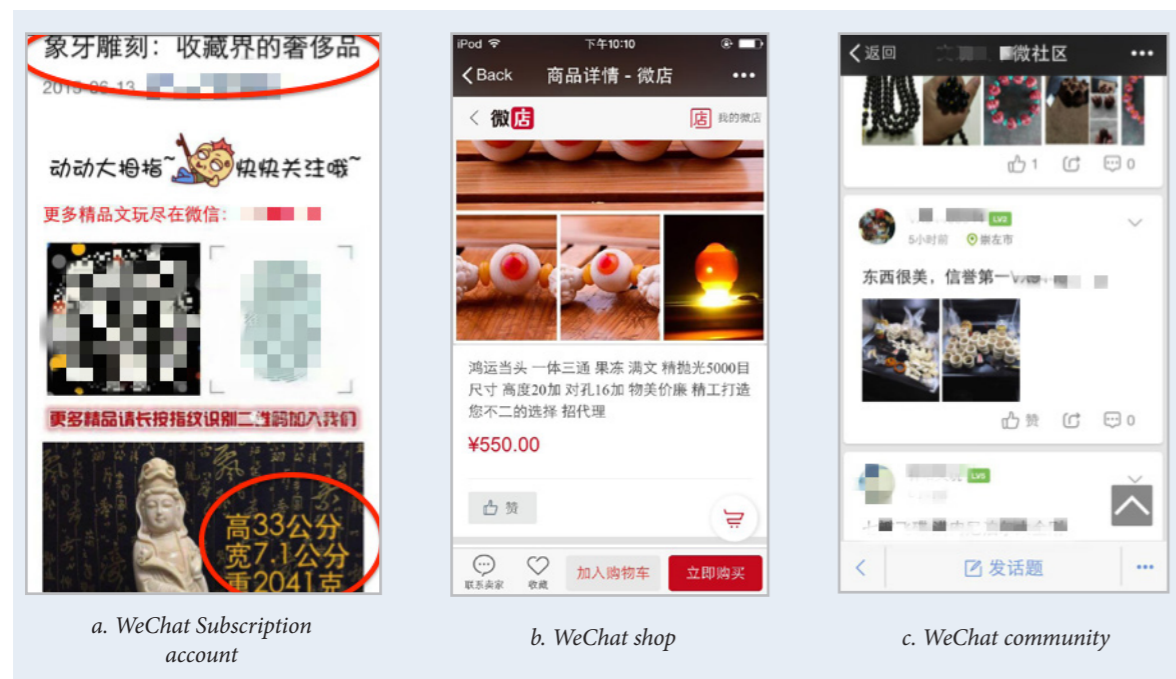

Figure 11: Posted advertisements

a. WeChat Subscription account   *b. WeChat shop*   *c. WeChat community*

Figure 12: Other channels and third-party apps for ivory trading

Left: Ivory carving: luxury in collective world; Height 33cm, wideth 7.1cm, weight 2041g

Middle: WeChat shop, San Tong, Jelly, Manchu's art, calling for agents; Put into shopping cart, instant buy

Right: beautiful stuff, No. 1 trusted

5.3 Price negotiation

If a "Friend" is interested in a particular advertisement in a traders' Moments section, they will not directly comment on the advertisement. Traders will also refused to reply to comments, but they will communicate through WeChat private messages. Most traders will use "high risk, low profit, hard to find the resource" as excuse to reject price negotiation (Figure 13). In the process of dealing, voice messages are used for communication to prevent tracking by Tencent's keyword monitoring system.

Figure 13: Price negotiation method

Left: Notice: Never reply to Moment's comments. Private messages for communication! Thank you!

Middle: Price for "San Tong". Low-profit goods, no price negotiation!

Right: Come on! Money is being transferred by WeChat payment. Elephant bracelet - Hot item

5.4 Transaction

According to screenshots of successful deals shown in a traders' Moments section, the main transaction mode is "direct transfer", including bank transfer and WeChat payment, as well as other online payment services. Direct transfer means direct payment and no intermediate holding, which makes the deal more covert. This also reflects a degree of mutual trust between buyers and traders. WeChat payment is the favourite payment method for traders. Once the WeChat payment account is linked with bank accounts, it takes only a click to make payment without any statement or fee. To be safe, a few traders also use the traditional bank transfer. Traders do not trust some online payment service's guaranteed payment because individual buyers can lie and claim not to have received the products and request some online payment service to return their advance payment. If the buyers insist on using other online payment services, the price will be higher (Figure 14).

Figure 14: Traders do not encourage the use of another online payment service

Left: The buyer is applying for refund. Product status: delivered, reason: colour/pattern/model and etc. are different from the original description. Amount: CNY 830. Explanation: I wanted to buy red sandalwood bracelets, but actually received ivory rings, which meet all characteristics of ivory. I am very scared to receive this contraband, so the ivory has been sent to the Police.

Comments from the trader: Hehe, who still dare to use "zou bao" (another online payment service)!

Middle: Only direct transfer is accepted. No "zou bao" ! Thank you!

Right: New pattern! The price by "zou bao" is CNY 900; and the price for direct transfer (direct payment) is CNY 800.

5.5 Courier delivery

Traders deliver ivory products by courier companies. According to Articles 9 and 10 in the Rule of Security Supervision and Management for the Postal Industry released on 4 January 2011, courier companies have to check the contents of packages to make sure no contraband is being delivered. The sender and recipient information should be double checked and the sender's valid ID is also requested. If the sender refuses to provide accurate information in the documentation, fails to provide a valid ID, or rejects being checked, courier companies should reject the package; if the package's content is contraband, courier companies should also reject the package; if the contraband is found during the delivery, courier companies should immediately stop delivering. However, the rule is not always well enforced by some courier companies. In order to deliver more parcels, the delivery staff tend to not check all parcels' content and some allow the senders to pack the parcel by themselves. When filling out the delivery forms, ivory traders are likely to use false names to describe ivory (e.g. small jewellery items) and except for a true phone number, there is no sender' address information in the form and his/her name is incomplete or a code, such as "Xiang Pin Ge" (Figure 15). According to the Rule of Checking Received Mails and Parcels issued by the National Post Bureau, from 1 November 2015, courier companies have to continually obey the Rule of Security Supervision and Management for the Postal Industry and double check the sender's ID and phone number before accepting any parcel. For e-commerce customers who have signed agreements with courier companies for convenience and efficiency, their ID information should be also shown in the document for tracking. To ensure that the recipient receives the goods in person, the postage is usually paid by the recipient, not the sender.
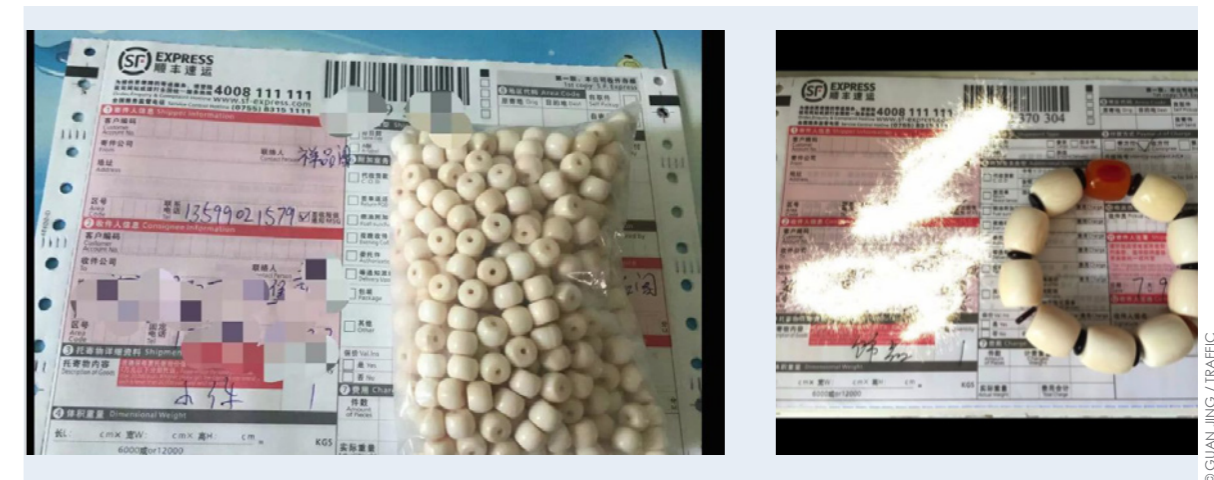

Figure 15: Ivory delivered by some courier company

6. Ivory Transaction Chain

Figure 16 shows the ivory transaction chain on WeChat, including raw ivory trading, preliminary processing, detailed or finished processing, wholesale/retail, agents and end-market.
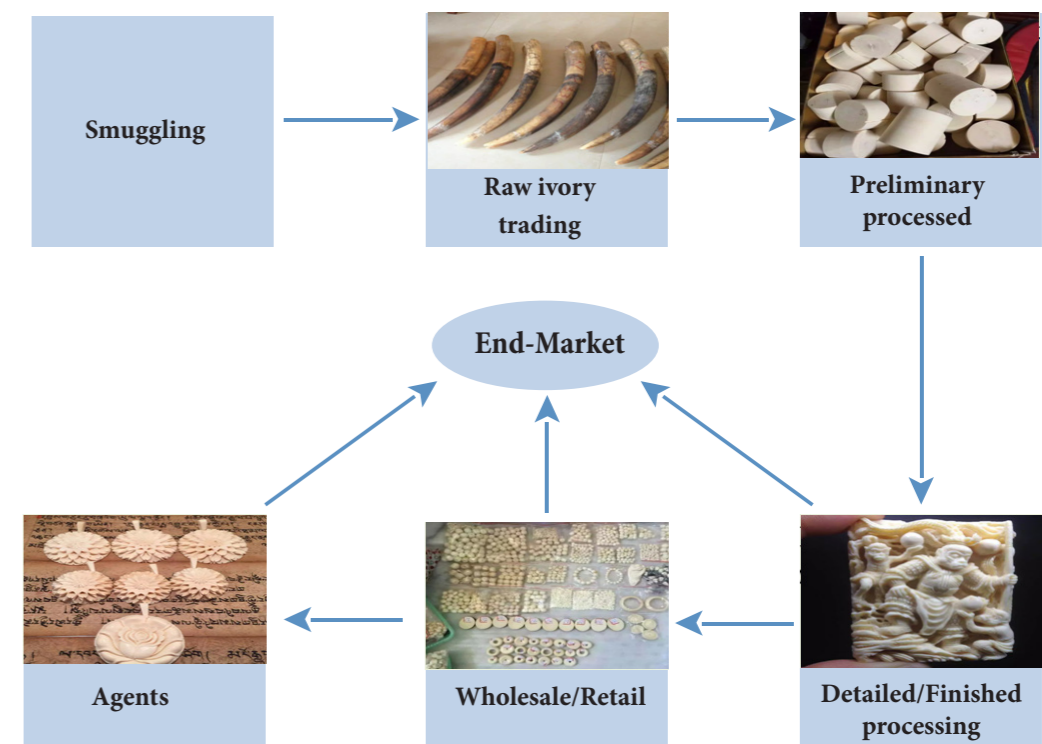

Figure 16: The ivory transaction chain

- **Raw ivory trading:** Including whole ivory tusks or pieces, whose target consumers are ivory carvers and manufacturers (i.e. not public consumers). Generally, raw ivory traders play a key role in linking smugglers with local processors, and are possibly smugglers themselves;

- **Preliminary processed:** Whole ivory tusks or ivory segments are cut into fixed geometric shapes, such as cylinders, spheres, rectangular and so on which will later be subjected to a secondary level of processing;

- **Detailed or finished processing:** The semi-worked ivory is processed into finished products by machine or hand. The products processed by machine are usually bracelets, necklaces and pendants; those carved by hand are mostly figurines or larger carvings. On WeChat, very few large carvings have been observed for sale, which are expensive and generally take a long time to carve;

- **Wholesale / retail:** Ivory products are directly obtained from worked ivory suppliers, and then sold through the Moments section of trader's WeChat accounts. The wholesaler/retailer also hires agents for resale;

- **Agents:** Ivory advertisements posted in the Moments sections of supplier's WeChat accounts are shared through the accounts of agents on their own Moments sections for sale with an extra fee. The monitoring results indicate that ivory wholesalers and retailers like to encourage "Friends" in Moments to become their "agents." If someone wants to buy ivory, the agents will ask for payment from the buyer first, and then purchase ivory from the upper level of the trade chain. The agents will send ivory products to the buyer after receiving them from the supplier. In this process, agents can easily earn the price difference without any cost. For wholesalers and retailers, agents can help wholesalers and retailers advertise ivory trade and expand the market in order to increase profits.

- **End-market:** This is the end of ivory trade chain. Through the end-market, ivory is sold to the consumers on WeChat. The physical end-markets are the antique market, bird/flower market and other such places.

CONCLUSIONS

Based on the analysis of survey results for 58 identified illegal ivory traders' advertisements on WeChat, seven conclusions can be summarized as below:

1. From May to July 2015, 58 identified WeChat accounts were assessed on 47 occasions, and a total of 10,650 advertisements of illegal ivory trade, consisting of 57,479 pictures and 580 videos, have been recorded. The average number of records per each survey was 227 advertisements of illegal ivory trade, containing 1,223 pictures and 12 videos. It is, however, very challenging to reliably quantify the total number of individual ivory pieces on WeChat, because traders offer individual pieces repeatedly and on various pictures and videos, at the same time – pictures might be swiftly deleted or removed (without confirmation of actual transaction). Regardless of total amounts, it can be concluded that trade levels are significant;

2. During the fifth week of the survey, the volume of illegal ivory advertisements dropped markedly by about 45% due to law enforcement efforts against illegal trade in ivory and other endangered species products by enforcement agencies and Tencent. As a result, many WeChat traders have stated that "the wind is too strong" recently (in reference to the strict policy of the WeChat management). However, during the 13th week, the volume of illegal ivory advertisements again increased significantly, and some traders even started to establish and publish "backup accounts" to avoid the effects of blocking or restricting business transactions on current accounts.

3. According to the commodity types and the frequency of their appearance in advertisements, ivory traders can be classified into four categories: A. Ivory franchise (13.8%); B. Ivory and other endangered species products franchise (41.4%); C. Collectables including ivory (20.7%); D. Other business, including ivory (24.1%).

4. Illegal trade in ivory products through WeChat includes: A. Raw Ivory tusks or pieces; B. Semi-worked ivory; C. Worked ivory. Trade in worked ivory comprises about 90% of the monitored market. However, this does not represent the actual trade quantity because many ivory tusks are possibly shown in a single photo or video. Generally, only worked ivory has been observed for sale in physical or online (website) markets during TRAFFIC's previous surveys, but through WeChat channels, raw or semi-worked ivory is also available.

5. The price of ivory varies by type of ivory being sold as follows: CNY9.1±2.2 per gram for raw ivory tusks or pieces; CNY7.4±3.4 per gram for semi-worked ivory; CNY32.2±10.0 per gram for worked ivory without carving (generally consisting high-quality ivory material); and CNY29.1±7.9 per gram for worked ivory with carving (generally consisting of lower quality material and carving – e.g. 3D engraving technology). For worked ivory, prices on WeChat were about 25% lower than those for similar items found for sale in illegal physical markets in China.

6. The main trading procedure can be outlined as follows: Adding 'Friends' -> Advertising -> Price negotiation -> Transfer/payment-> Delivery. Traders post ivory photos or videos in the Moments section of their accounts and other channels on WeChat, in order to avoid Tencent's inspection; products are generally labelled with price without negotiation; traders accept payment via WeChat's wallet or bank transfer; and in the end, the ivory is delivered through courier companies.

7. The ivory transaction chain on WeChat consists of six steps: raw ivory trading, preliminary processed, detailed or finished processing, wholesale/retail, agents and end-market.

RECOMMENDATIONS

This research used illegal ivory trade as a case study to analyse the status and characteristics of endangered species trade on WeChat through the monitoring of 58 WeChat accounts selling ivory products exclusively or on occasion. Following the conclusion of this research, all of these accounts were submitted to Tencent and the National Forest Police who are considering enforcement actions based on further investigations. The latest Amendment (ix) of Criminal Law of the People's Republic of China was implemented on 1 November 2015. This includes Article 287.1 "Those advertising contraband on the Internet will be charged for lower than three years imprisonment or criminal detention and/or a fine"; and Article 287.2 "Those providing online service for criminal activities, e.g. server hosting, network storage, communications, transportation, supporting advertisement, payment settlement and other technical support will also be charged for less than three years imprisonment or criminal detention and/or a fine." Based on these amendments to the law and TRAFFIC's research findings, the following recommendations are put forward to the government, relevant companies and NGOs to jointly combat illegal trade in ivory and other endangered species on social media platforms:

- Relevant law enforcement and administrative agencies should strictly implement the Criminal Law Amendment (ix) of the People's Republic of China, and combat and punish illegal traders who advertise or otherwise support illegal trade in ivory or other endangered species products through social media platforms.

- Law enforcement agencies, especially Forest Police, should strengthen cooperation with local police and Tencent to research and develop new technologies and methods for combating wildlife cybercrime based on the characteristics of illegal online trade in ivory and other endangered species products.

- As the illegal ivory trade which TRAFFIC is actively monitoring is just the tip of the iceberg in terms of the overall trade in endangered species through social media platforms, TRAFFIC suggests that Tencent follow the example taken to prevent advertising of drugs, weapons or pornographic goods. These include the establishment of effective systems for combating and preventing wildlife crime through social media channels, and the improvement of identification technology for identifying endangered species products in pictures and videos.

- Tencent and law enforcement agencies should actively combat those traders who apparently specialize in selling ivory and/or other endangered species products through WeChat, but also strive to educate others who mainly sell an array of collectables and other commodities to help them realize the seriousness of such cybercrime in order to stop the ivory trade.

- Tencent should use its own social media platforms in order to strengthen public awareness for wildlife conservation and strictly prohibit the illegal trade of endangered species products on its platforms;

- As the crucial link between buyers and traders in online trades, courier companies should strictly implement the relevant rules and diligently check parcels during the pick-up process to prevent moving any endangered species products inadvertently. Likewise, courier companies should work to detect endangered species products during the parcel scanning process at distribution centres and consider the use of sniffer dogs who can detect wildlife commodities at parcel distribution centres. Training programmes for courier companies to strengthen their internal regulatory capacity for illegal trade in endangered species products should also be undertaken;

- TRAFFIC and other NGOs should make use of their insights and technological experiences to support websites and social media managers to strengthen routine monitoring of illegal trade in ivory and other endangered species products.

- Tencent should work with TRAFFIC and other NGOs to develop the protocols against illegal trade in ivory and other endangered species products on WeChat, which can be used by other social media companies.

- The Chinese authorities, Tencent and TRAFFIC should work together to reduce demand for ivory and other endangered species products through measures that serve to guide and change current consumption behaviour. This will help effectively implement the Sino-US agreement on "phasing out domestic ivory trade," which will ultimately serve the objective of protecting African elephants.

- The Chinese model of cooperation between NGOs, social media and e-commerce platform managers and law enforcement agencies is an effective tool in combating illegal wildlife trade. This model should be replicated in other wildlife trade hotspots and to other relevant social media and e-commerce platforms.

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TRAFFIC, the wildlife trade monitoring network,
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