Digital Intelligence Strategy in Combatting Wildlife Trafficking

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Abstract. The use of information technology in wildlife trafficking increased rapidly as the new media outbreak. The wildlife trafficking usually done in the bird market or pet stores is now turning to Instagram accounts, facebook groups, WhatsApp groups, BBM accounts, blogs and websites. The related stakeholders anticipate it by developing a strategy of digital intelligence. Through a descriptive case study using participatory observation, this study reveals the implementation of intelligence strategies in the handling of wildlife trafficking throughout 2017 in East Priangan (Tasikmalaya, Ciamis, Banjar, Kuningan, Majalengka & Cirebon). The results show the majority of wildlife trafficking takes place through social media as the new media outbreak. Monitoring and handling of wildlife trade takes place digitally sig
digital intelligence strategy throughout 2017 with the success rate of handling reaching 100%. This condition shows that wildlife trafficking has become one of special part of cybercrime and need special handling.

1. Introduction
The use of the term intelligence is usually associated with covert operations that seek to secure the state from various threats. Judging from the terminology, intelligence comes from the absorption of English "intelligence" which means intelligence. This implies that the notion of intelligence, whether as information, knowledge, process, activity, product, or organization, must contain the intelligence of the perpetrators.

The definition of intelligence is officially listed in the Minister of Home Affairs Regulation no. 16 year 2011 article 1 paragraph (1): intelligence is effort, activity, and action organized (organized) by using certain method produce product about problem faced from all aspect of life to be conveyed to leadership as consideration in making decision.[1] In line with the definition, according to the Chief of Police Decree no. Pol: Skep / VI / 2006 *In general, the definition of intelligence is a business and activities undertaken with certain methods in an organized manner to obtain / produce products in the form of knowledge about the problems encountered, then presented to Kapolsek / Kanit intelligence as decision-making materials of policy or action."

Based on Law no. 17/2011 on State Intelligence[3], intelligence functions are among others related to investigation, security and raising. In the inquiry function, Article 6 paragraph 2 of the State Intelligence Law is described as a series of efforts, activities, activities and actions that are conducted
in a planned and directed to search, find, collect and process information into intelligence and make as
input for formulating policy and decision maker.

In the security function, as referred to in article 6, paragraph 3, intelligence means a series of
activities planned in a planned and directed manner to prevent or resist work, intelligence activities, or
adversaries that harm national interests and security. The function of raising, in the form of article 6,
paragraph 4, intelligence means a series of planned, targeted efforts, work, activities and actions to
influence the goals to benefit national interests and security. This activity has an important function
and is often used to influence a person or society to achieve operational goals.[3]

In some literature, cybercrime is often identified as a computer crime. The U.S. Department of
Justice provides computer crime as: any illegal act requiring knowledge of computer technology for its
perpetration, investigation, or prosecution. Other definitions are given by the Organization of European
Community Development, namely: any illegal, unethical or unauthorized behavior relating to the
automatic processing and / or the transmission of data. While Andi Hamzah in his book Criminal
Aspects in Computer (1992) [4] defines: crimes in the field of computers in general can be interpreted
as illegal computer use. From some of the above understanding, computer crime is formulated as an
act against the law that is done by using a computer as a means / tool or computer as an object,
whether to gain profit or not, to the detriment of other parties. In summary, computer crime is defined
as an unlawful act done using sophisticated computer technology (Wisnubroto, 1999).[5]

Wildlife Cybercrime is a new trend in the last five years. As new media develops, there is a change
in the pattern of conventional wildlife trade (open trade in animal markets, pet lover community or pet
shop) into online-based trafficking. Facebook and Instagram become the dominant marketing medium
of wildlife. Wildlife Conservation Society (WCS) noted, 2011-2017 there were recorded 49 cases
handled by the authorities. This figure is like the tip of the iceberg, many cases of trade has not been
handled. Noviar Andayani, Director of WCS, in a media discussion at Manggala Wanabakti Jakarta on
Friday (13/10/17) said that land conversion has resulted in habitat loss, until the trade in animals
becomes a serious threat.

"...We are intensively developing more strategies and ways of investigating the use of social media
for protected wildlife trade. Of the various cases, 40% trade in animals via social media such as
Blackberry Messenger or Facebook. Trade through online trafficking sites is also increasingly
widespread and continues to increase,"[6]

Profauna also noted from January to mid December 2015, there are at least 5,000 wildlife trade
cases online through social media. This number increases compared to 2014 there are 3,640 ads. Data
2017, there are seven elephants, 15 tigers and one dead rhinoceros. Five cases of trafficking at the
airport. WWF data cited by the Ministry of Environment and Forestry mentions in November 2015 to
April 2016 there are 6,517 wildlife traded through social media. The composition of the type of aves
as much as 42%, 31% mammals, and reptiles as much as 27%. Meanwhile, in the same period the
eagle became the most widely traded animal of 1,177 animals.[7]

Achmad Pribadi, Sub Division Head of Forest Prevention and Protection of Java and Bali Region-
Ministry of Environment and Forestry (KLHK) said, as prevention of wildlife trade, KLHK take
various steps. He did not dismiss the growing cyber development. The online technology is very
sophisticated. Overcoming this, he said, KLHK establish cooperation with various parties, both NGOs
and police. KLHK, he said, has also met the Ministry of Information.

"...We also have an active task force. Began to record the movement of animals how the
development. Observing social media like Facebook, Instagram. Our e-commerce actors are
involved."[6]

In the local level there is also a rapid increase wildlife cybercrime. For the area of East Priangan-
West Java, 2017 is the peak of the changing pattern of animal trade. All animal trafficking reported
and detected by local Natural Resources Conservation officers takes place through social media. In
2017, there was an increase in the handling of wildlife trade, 100% of handled trafficking cases were
successfully brought to court. This achievement improvement is recognized as a result of the new
wildlife trade handling pattern, not only investigative but also applying a number of intelligence
approaches. To explain this condition developed a research that discusses how this form of handling of online animal trade in the context of communication. And identify the implementation of digital intelligence strategy in the change of this handling pattern.

2. Media Ecology Theory
Media ecology theory is the study of how media and communication processes affect human perceptions, feelings, emotions, and technological values that affect communication through new technologies. This theory centers on the principles that society can not escape the effects of technology and technology that will remain central to almost all levels of society. The basic concept of this theory was first put forward by Marshall McLuhan 1964. McLuhan mapped the history of human life into four periods: a tribal age, literate age, a print age, and electronic age. According to him, the transition between periods was not gradual or evolving, but rather the invention of communication technology.[8]

McLuhan is well known for coining sentences, "Medium is the Message" (Medium Is The Message) " which is a phrase that is often debated. In that phrase, it is believed that the media chosen to convey the message is just as important (if not more) than the message itself.[9] In the perspective of this theory, it is not a message that affects our consciousness but the medium. A larger medium affects our subconscious. Medium form a message, not vice versa. This means that electronic media has changed society radically. Communities rely heavily on technology that uses the media and that social order of a society is based on its ability to confront the technology. The media form and organize a culture. This is called the theory of media ecology. McLuhan also stated that we have a symbiotic relationship with technology that uses media. Man creates technology, and instead technology is shaping humans. These are the basic concept of media ecology theory by McLuhan[9]:

2.1. The media encompasses every action in society
In McLuhan's perspective, the media is not seen in a narrow concept, such as newspapers / magazines, radio, television, movies, or the internet. But in a broad concept, McLuhan sees the medium as anything that is used by humans. Including hours of numbers, money, roads, even games is medium.

2.2. Media improves our perceptions and organizes our experience
In the second assumption the theory of Media Ecology sees the media as something that directly affects humans. The way humans judge, feel, and react tend to be influenced by the media. In this assumption McLuhan assesses the media is strong enough in shaping our view of the world. That's why we call it ecology. "Ecology is the study of the relationship between organism and its environment." The media will continue to change along with the growth and dynamism of society, will continue to change along with the society’s unity. And on the contrary, society changes according to media changes.

2.3. Media brings together the whole world
In the assumption of the three theories of media ecology states that every event or thing done in other parts of the world, can be known or spread to other parts of the world. 'As a result of that, McLuhan calls, humans then live in a global village. Media seems to bind the world into a unified political, economic, social, and cultural system.

3. Intelligence and The Hank Prunkhun Model
Intelligence information can be obtained in open and closed ways. Open sources for primary data can be conducted by observation, reconnaissance, interviewing, focus group discussions, studying CCTV, research, surveys and research or intelligence research. While for secondary data can be equipped from information open and available in mass media, documentation (study supporting document), internet and research result of other institution. In addition to open ways, intelligence can obtain information from covert means or covert intelligence.
Intelligence agents or intelligence personnel can perform elicitation (gain unconscious targeting), disguise, intelligence operations, and obtain highly confidential information materials. These information should be explored, re-examined, and confronted with other data before being analyzed. The information that has been reviewed and verified can then be called intelligence. Existence of wildlife animals is crucial as one of the elements to sustain the stability of the ecosystem. The absence of some elements in nature will create an unbalanced condition. For example, when snakes were killed or taken from their habitat, humans’ farms and plantations would be disturbed by over-populated rats, because snakes are rats’ predators that control the balance in the natural food chain. This fact is somehow ignored by people in many cases, especially when the hunting, keeping and consuming wildlife have become trends within the society.

![Figure 1. Information & Intelligence](image)

Source: Anriani (2018: 7)[10]

In its development, the development of information technology and business causing various parties can access information easily. Online business, online services, and online learning can be downloaded through various applications in the gadget and the biases of those apps request to connect with the contacts in the gadget. This makes it easy for online businesses to get a lot of information about customers. There is no possibility of cooperation between intelligence and online business.

Intelligence as knowledge has similar definition with the definition of intelligence as information, it’s just that as knowledge has occurred a process of deepening and development of information into knowledge intelligence as knowledge as part of social and political knowledge that can be developed as part of the input for policy makers, so closely also with public policy related to national security. Sherman Kent as quoted by Anriani, one of the CIA analysts gives the understanding of intelligence as knowledge that is, “intelligence, as I am writing of it, is he knowledge which our highly placed civilians and military man must have to safeguard the national welfare”.[10]

The definition above clearly shows that intelligence as knowledge can be owned by the military as well as civilians, anyone can study it for the sake of national welfare. Intelligence as knowledge will develop insights and beliefs that make people have the ability to make decisions in the midst of uncertainty and one of the foundations of intelligence is to manage uncertainty. As knowledge, intelligence is a method or means of gathering information, creating analysis and scenarios, planning intelligence operations, strengthening knowledge for early warning or early prevention, as well as developing analytical techniques for users or helping to provide input for public policy makers.

Intelligence as a product once the information in the field is obtained, then continued to be verified and analyzed, the information can be presented into a report or intelligence product that has been through the intelligence cycle process. As process, intelligence is a set of procedures or steps that make up the intelligence cycle. Intelligence cycles can take one lap or several laps, and there may be repetitions at some point. Hank Prunkhun described the seven steps of the cycle of intelligence:
4. Data & Methods
This article is based on a qualitative study, the focus is on the identification of digital intelligence strategy that applied in combatting wildlife trafficking. During 2017, observation data were gathered from Facebook and Instagram's publication (status', picture shares, group chats) on wildlife trafficking at the six locations in West Java, namely Tasikmalaya, Ciamis, Banjar, Kuningan, Majalengka, and Cirebon (all at Priangan Timur Regency). The interview step was held in two terms, along observation process for the wildlife traffickers (during 2017) and May 2018 for investigators. For confidentiality reasons, the account, traffickers’ and investigators’ name will not be identified in the results section, and results are not discussed in the order the traffickers are mentioned above. After the pilot study, ten questions were handed out to all participants on categories (traders & investigators). Sources had the choice to refuse the question directly to the researcher. Among a number of questions addressing a variety of issues, Trafficker sources were asked four questions about wildlife trafficking in general, and four questions about their marketing strategies. Investigators sources were asked four questions about wildlife cybercrime in general and four questions about their strategies.

5. Result & Discussions
Generally, all informants agreed that the development of social media affected the wildlife trafficking methods. All informants admit that social media is a new medium in transactions and leads to the changes that accompany it. The existence of new media is considered to be the easiest, least expensive and low-risk medium.

The security factor is always a major consideration for smugglers. Therefore, smugglers are always seeking and utilizing the communications medium that is considered the safest of law enforcement monitoring. Easily create social media accounts like Facebook and Instagram, making smugglers freely market wildlife through various accounts they have. ANT (Trader 1) explains he is focusing trade through Facebook based on his colleague's experiences. Facebook in the last four years has been a favorite of smugglers because it is easily accessible, has a wide network, allowing smugglers to use various fake accounts to disguise their trail as well as free of charge. "Now is the era of the Internet, in the old pattern we have to have a place, there are kiosk lease, pay security services, it also there is no guarantee that we reach the specific buyer, not directly interact with our market share. In the online media we can market animals directly to the community of certain animal lovers in the group, it’s specific.” (interviewed at 3 February 2018)

The existence of this social media affects various aspects. WN (Trader 2) describes social media affecting demographic changes of sellers and buyers. Ten years ago, wildlife smugglers were still dominated by wildlife smugglers selling at bird markets, pet shops or roadside, in the last five years
wildlife smugglers have been dominated by online players. This is due to the age of young animals smugglers, ranging from 17-35 years, is a social media users. Smugglers who still survive the old pattern are usually senior smugglers or have back-up apparatus. The younger the age of wildlife smugglers is due to the rampant community of wildlife lovers. Usually these young smugglers are members of the community who then try to trade in their fellow communities. Over time, they have an increasingly widespread network that can be a scalper to sell other animals outside of the community. This continues to grow until he finally sells wildlife openly in the social media group, even creating his own social media group for his customers. "Actually if they realize the ease and level of security online, they will prever online trafficking. The average old traffickers are still clueless. But we often work with them, we marketed their collection through our social media, we are playing role as brokers. "(interviewed at 3 February 2018)

According to the buyer side, there are also a change of age and the type of animals that are traded. Ten years ago wildlife that often became a collection and traded the majority of animals are valuable expensive. Himawan Sasongko, Chief of Natural Resources Conservation Agency (Badan Konservasi Sumber Daya Alam-BKSDA) for Priangan Timur Area (Garut, Tasikmlaya, Ciamis, Banjar, Pangandaran, Majalengka, Kuningan, Indramayu & Cirebon) mention this happens because most collectors are a group of wealthy people who can afford to buy animals with expensive treatments. Ten years ago the favorite animals were yellow-crested cockatoos, eagles, peacocks, starlings, deer, orangutans and even large animals such as tigers and harimau sumatera. Processed wildlife products include dried tiger and elephant ivory was often collected a number of officials, artists and public figures particular. At that time maintaining wildlife is considered to have a certain prestige because the price is expensive and rare.

Currently buyers and collectors of endangered species began to penetrate into adolescence. These teenagers are interested in maintaining animals because of the trends they know from social media. WN (Trader 2) claimed to have transacted with a 13 years old child, the transaction was using his personal social media account and transferred money from someone else's account. Maybe his parents or older brother. These young buyers are indeed familiar with social media and happy to get together or join the community. The wildlife that teens enjoy is usually cheap, under Rp1 million like lemurs, crows, eagles (some eagles have fallen in price over the last decade), forest cats, snakes and binturong. “For young collectors, social media is part of their daily life. So the presence of the youth in wildlife trafficking effect the existing pattern. Their existence also makes wildlife species’ more varied but it also effects of wildlife prices. The wildlife prices become cheaper, adjust to their ability. These teenagers are sadistic bidders, maybe because they do not have much money."

Unlike the old buyers are relatively stable emotions so often keep animals in the long term, young buyers more influenced by the trend. When already bored, a number of young hobbyists are marketing back his collection in social media with barter system or sell with a certain "mahar" (price). This situation affects the map of wildlife trafficking, currently no one has a definite role in the trafficking map. A buyer can also act as a broker, buyer or courier. There are terms as long as there are goods, all can be a seller.

Social media also affects the pattern of transactions. There used to be a doubt on the security of online transactions, especially on aspects of payment, but with the existence of a joint account system, the seller gets security of payment security. This joint account system enables transactions through effective third party accounts to negate the footprint of financial transactions between buyers and sellers directly. If the risk of being caught at the time of delivery of animals can be tricked by using courier services. So the transaction can be a success without the need for face-to-face between smugglers and buyers.

McLuhan's assumption in Media Ecological Theory[9] that is related media will continue to change along with the growth and dynamism of society, will continue to change along with the needs of society. Conversely, society is changing following the media changes deeply felt in this situation. The development of social media causes smugglers, brokers, couriers and buyer / collector maps to change. Currently no one occupies a definite role for certain. The existence of digital-based social media has
changed the map of wildlife trade from demographic aspect of perpetrator, trade pattern, perpetrator map, price, animal type, distribution, transaction motive and geographic of the perpetrator. In a number of animals, even until there is a shift of the myth of animals due to commodification by traffickers. Slowloris in Sundanese culture is believed to be a medium of magic/witchcraft is now considered as cute adorable animals. Crows who are often regarded as unlucky carriers or death messenger are now a pet that is considered to be brave, thus increasing the owner's charisma.

"...Now the local people also share the trend of maintaining a certain animals and actively transact. We found out that several Facebook accounts in a particular group, it turns out the seller Pamarican, Langen, Lakbok (remote area of Banjar) that has limited access to the city. Now as long as there is internet connection, all can happen." (DTK-investigator, interviewed 15 March 2018)

This phenomenon is in accordance with the global village concept presented by McLuhan. Technological developments have overcome the limitations of physical infrastructure that has been isolating certain groups of people[9]. Unfortunately, the openness is used for illegal acts, namely wildlife trafficking.

As the associated area administrator, Natural Resources Conservation Agency (Badan Konservasi Sumber Daya Alam-BKSDA) for Priangan Timur Area (Garut, Tasikmlaya, Ciamis, Banjar, Pangandaran, Majalengka, Kuningan, Indramayu & Cirebon) anticipates the change of wildlife trafficking pattern by developing new strategy. The investigation which initially took place conventionally since 2014 began to be developed toward digital investigation. DONO (investigator 2) believes as part of cybercrime, wildlife trafficking is associated with other crimes. That's what caused the police headquarters to pay considerable attention through the cybercrime division. "Only in the last few years is sinking, I don't know why drown, maybe because of the issue is not so sexy anymore. Now the police are more concerned about food security, terrorism, drugs. We don't know in which priority the wildlife issues are." (interviewed at 12 March 2018)

ANT recognizes that the change in wildlife trafficking handling tend to follow the trend. The characteristics of young people who use gadgets to become a new trade trend so that investigators move to follow it. This shows even in the context of law enforcement, the pattern of law enforcement is also influenced by the latest technological developments, which is very inherent in Mc Luhan's media ecology theory.

Sasongko explain trend of online trading began detected by BKSDA since 2014, the number of cases handling each year continues to increase along with an increase in the number of lives saved. The peak of BKSDA achievement is 2017, then of the 39 wildlife tackled, only 4 tails are the temporary handover. A total of 35 wildlife (from three cases) are handled as part of the legal process (collection of material description). All animals collected from the information obtained from online trading. All three cases of this trade are processed until the judge's verdict.

Special handling of wildlife cybercrime, BKSDA uses a different strategy of handling conventional wildlife crime. The investigation effort is carried out by a limited and confidential task force that comes from technical and non-technical divisions. The ability to handle online trading cases requires special skills and abilities. Not all officers (forest police and forest investigators) have IT expertise and are keen on looking at online commerce. In addition, there should be an additional encouragement in the form of an interest in dealing with complicated procedures related to the disclosure of online trading networks. This makes the human traffickers of online trading are very limited, regeneration was attempted to be done although limited and chasing the more rampant similar crimes. This confidentiality is done to avoid leakage of operations remembering in the digital world known term second life, a second personal embodiment that may be much different from real life. Officers are not willing to take risks with identity leaks that the deepest circle may know.

In the execution of duties, members of the task force always coordinate with the leadership of the institution. Initial coordination can be either an inquiry or a request to the leader to have a particular case given permission to be investigated. This stage is in accordance with the direction stage setting of Hank Prunkhun. All investigators admit that they always work on leadership orders. Sometimes we identify potential cases that can be handled, they always report first to the leadership. “We need to ask
for permission so that case can be followed up in the investigation." (DTK-investigator 1, interviewed at 15 March 2018)

DTK (investigator 1) explains in the collection of information and data, in contrast to conventional trading patterns, online wildlife trade takes place through a more complex pattern characterized by a variety of accounts created across medium social media to offer only one animal. These diverse accounts are controlled sometimes by one person. So this account functions like a broker in conventional trading. He offers animals to a number of groups on Facebook or also displays in their own timelines. Easily create a social media account makes the apparatus difficult to navigate the existence of animals and smugglers. These conditions make it necessary for intelligence activities to monitor behavior, transactions or even disrupt potential transactions.

Intelligence activities are different from ordinary patterns of inquiry. The perpetrators of intelligence activities (intel) is a secret figure who could be in his daily duty outside the scope of the issues being observed. An anonymous system is done to maintain the confidentiality of the operation and maintain the safety of the parties concerned. Time of implementation of activities vary, even idk there is a certain time standard. The emphasis in this activity is to obtain as much information as possible to be processed and used as policy material of the leader. Or even these intelligence activities also take place to simply monitor and disrupt the pattern of smuggling movements without any law enforcement efforts (arrest and legal process of traffickers).

Intelligence tasks are usually always associated with three things, namely early detection, early warning and provide estimates. Early detection can be interpreted as an ability to perform identification of early symptoms, early indications, and possible threats. After the initial symptoms, it is necessary to verify, be experienced and analyzed well. Early warning is an attempt to provide an overview of potential legal violation activities within a certain timeframe. This is included in the forecasting process that became one of the functions of intelligence. The entire stage of handling wildlife cybercrime is done in accordance with the cycle of intelligence Hank Prunkhun.

6. Conclusion
Generally, there has been a shift in the pattern of wildlife trafficking in the last five years from conventional trade to online trade as the outbreak of social media. This condition changed the pattern of handling of animal trade cases in East Priangan especially in Tasikmalaya, Ciamis, Banjar, Kuningan, Majalengka and Cirebon from the conventional pattern of investigation into the application of digital intelligence strategy. In the implementation, the digital intelligence strategy developed by law enforcement in East Priangan is still limited by the local KSDA with limited human and financial resources. The implementation of this digital intelligence strategy has proved effective, as demonstrated by the success of 100% of online wildlife trade cases handled by 2017.

Based on the results of this study, researchers recommend wildlife trafficking to be a special part in cybercrime maps as well as human trafficking, narcotics and terrorism. This special mapping is important considering the development of online animal trafficking trend which is very rampant with the abandonment of conventional pattern. This particular mapping will impact on more targeted handling strategies and more adequate state funding. all informants agreed that the development of social media affected the wildlife trafficking methods.

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