

Tech Tools for Anticipating Human Trafficking in Archipelago State

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Abstract— The current mitigation efforts of human trafficking fail to combat cross-border trafficking in the sea. On the other hand, most of the studies in human trafficking have not dealt with the context of transporting victims via seaport. This paper attempts to critically discuss the process and consequences of transporting victims of human trafficking via illegal seaport. Part of the objective is to propose compatible tech tools to anticipate potential victims. A qualitative approach was employed since investigating human trafficking in Riau Islands' seaports needs a robust research method. Thus, a case study is selected to focus on a single exit point phenomenon for sending migrant workers who have been identified as a group at high risk of human trafficking. Riau Islands, specifically Bintan Island and Batam Island, were selected as samples of case studies because these are critical locations for sending and repatriating victims. The current study found that an archipelago country like Indonesia deals with multifaceted challenges in combating human trafficking. Moreover, there is a significant shift in human trafficking crime from recruiting to executing due to the cyber world's invention. One unanticipated finding is that social networks and cybercrime have expanded the possibilities for supplying victims. This study contributes to research on human trafficking by introducing tech tools that may help overcome the problems.

Keywords— Tech tools; human trafficking; seaport; technology; Indonesia.

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I. INTRODUCTION

Migration is a social phenomenon when people try to find a decent life by traveling a considerable distance, even outside their home country. Thus, there is a population movement that is also generally influenced by economic factors. Along with the widespread globalization, people impose direct economic consequences in various countries. International migration will always take place at any time due to contributing factors.

According to Hamid and his colleagues, trafficking is an organized crime, which typically involves several people who have networks or links with each other and intend to exploit the victim for the sake of unilateral gains (perpetrators) [1]. The so-called victims of human trafficking could be recruited, sent to a particular place, moved, accommodated, or accepted for exploitation purposes. Examples of exploitation are being threatened, tortured/persecuted, violently forced, and kidnapped. Furthermore, forgery or manipulation, there are elements of fraud, treated as an object for profits or monetary benefits such as sale or rent. One study assesses the status, major origins, and contributing factors of cross-border migration and human trafficking in Ethiopia's African nation

[2]. The assessment disclosed that Ethiopia is one of the most extensive origins (both transit and destination) of trafficked individuals from Africa. The most common driving forces are an amalgam of socioeconomic, political, and environmental factors [2]. The journeys are often dangerous, which leads to prevalent cases of physical assault, sexual abuse, abduction, robbery, drug/alcohol trafficking, and even death. In most destination areas, illegal migrants face restricted mobility, exploitative working conditions, and harassment of various kinds.

A. Human Trafficking as Global Issues

However, the protocol on the free movement of a person, such as a case for Economic Community of West African States' (ECOWAS), is identified as one of the contributing precursors for the rise of human trafficking practice in West Africa due to border porosity [3]. Based on the findings, it was encouraged that the ECOWAS intensify more efforts with its member states to solve their economic problems as the vulnerability of human trafficking is from the low-performing economies in West Africa). After analyzing 768 trafficking cases by the Dutch Public Prosecution Service (2008-2012),

Kragten-Heerdink and his colleagues conclude that the human trafficking situation most identified is that (near-) domestic sex trafficking where the victims were not pushed out of impoverished countries but are recruited on native (or neighboring) soils [4]. Poland faces a similar issue in the same line that trans-border trafficking victims are for sexual exploitation [5].

In South Asia, India's eastern border areas with Bangladesh have been the target of concerted anti-trafficking interventions for decades, to stop human trafficking from Bangladesh into India transiting through these areas and girls and women from these areas to other parts of the country [6]. By centering borderland women's narratives of migrant work and its consequences, Ghosh found a different migration angle [6]. The migration sustains families' economic wellbeing and becomes the main arena in which women stake out claims to their major roles in economic and social transformations of their material and spatial realities.

Norfolk and Hallgrimsdottir carried out a study in North American cross-border across the British Columbia (Canada) and Washington State (U.S) border [7]. They stressed that the prevalence of human trafficking for sexual exploitation and forced labor in the Pacific Northwest had been well documented in recent years. The study concludes that current mechanisms of immigration borders as an instrument for the identification and intervention of human trafficking fail to tackle the issue of cross-border sex trafficking appropriately. The failure occurs due to several reasons, including varying definitions of sex trafficking, mixed-up migrant sex work, and sex trafficking, which lead to missing at the immigration border, and lack of focused efforts on victim support [7].

The importance of immigration borders to prevent and control such cases was also expressed by Simonyan who investigated similar phenomena in Russia [8]. The position of borderline regions, which are entrusted with implementing two fundamental functions of the state borders, shall emphasize the contact and the barrier. The contact refers to the interaction of Russia with neighboring countries. In contrast, the barrier highlights the efforts to maintain the country's borders and integrity, prevent smuggling, drug trafficking, and illegal migration with its threat of international terrorism penetration.

However, Tefera concludes that the ultimate mechanism to address the root cause of the problem was the adequacy of job creation and poverty reduction through intensified development efforts involving governmental and non-governmental organizations and the private sector [2]. Furthermore, enhanced democratization of the government system, political tolerance, good governance, improved access to legal travel authorization (visa) for safe and lawful immigration, awareness creation campaigns, improved monitoring of the private employment agencies, and increased cooperation among stakeholders were found to be robust solutions to minimize and halt illicit cross-border human trafficking.

B. Controversial of Technology in International Trafficking

The use of technology has reshaped international trafficking activities. Technology-facilitated trafficking, which is spreading in the digital world, leads to unresolved issues. Consequently, it will be challenging to prevent human

trafficking activities and protect the victims [20], [22], [24]. For example, the diffusion of technology for the sex industry from the database management systems, search engine to payment [23], [25]. On the other hand, there is an opportunity to track and trace the criminal using new technology innovation [21]. Mobile technology with incredible speed is an important driving factor to develop counter-trafficking initiatives. Besides, internet application could potentially spread across the globe due to its rapid adaption rates and significant benefits to society. However, the role of technology in human trafficking remains unclear. Labor trafficking facilitated by digital technologies has contributed to making Indonesia remain in Tier 2. In conclusion, there is a significant trend in how technology plays a central role in facilitating labor trafficking. Digital technology still enhances victimization and exploitation. Thus, the purpose of this article is to respond to the latest threats by supplying potential counter-tracking tech tools.

C. Human Trafficking in Indonesia

One of the driving forces behind the mobility of Indonesian citizens abroad is the economic factor. According to data from the National Central Statistics Agency, the Indonesian labor force number in February 2019 was 136.18 million. In 2018, there were 133.94 million, in this case, an increase of nearly 3000 people in just one year [14]. With such a large population of the workforce, competition to land jobs is increasingly fierce. Doubled with the ever-increasing demand for international competitiveness, the global job market requires skilled workers. However, on the other hand, most of the Indonesian workforce is unskilled workers.

The high rate of labor growth increasingly drives the motivation of the Indonesian population to migrate. Poverty leads to communities vulnerable to being victims of human trafficking acts. International criminal organizations (e.g., mafias) have traditionally taken advantage of people who intend to migrate but are unwilling to pursue and comply with legal requirements lawfully. Global mafias often direct migrants into the black market of the workforce. They are being trafficked to become slaves, rogue & illegal workers, commercial sex workers, and high-risk child laborers. The workforce mafia exploits the weaknesses of migrants, including lack of education, lack of skills, physical weakness (due to being most women and children), those who are financially trapped in debt.

Women generally experience the victims of human trafficking as much as 64% of the total trafficking victims [10]. Women are typically weak and do not have the willpower to confront the system that had disrupted them in the workplace. One of the root causes that make them unable to retaliate is the low education level, particularly for Indonesian female migrant workers. A contemporary phenomenon of trafficking on the border of West Kalimantan is a well-known example of outrage cases on females and children. This problem has a solid potential to continue to occur if prevention and eradication do not reach the target and are not practical and systematic [1].

The violence against women and children as victims of human trafficking in Indonesia continues to soar. From 2011 to 2018, there were 101 cases of human trafficking based on data retrieved by the Criminal Investigation Police Force. Of

those cases, 1,321 victims were adult females, 46 girls, and 96 adult males [9]. The iceberg of trafficking cases in Indonesia has shown that the numbers hidden below the surface are far higher than those seen on the surface. Commissioner of the Indonesian Child Protection Commissions (KPAI) mentioned 12 common modus operandi of human trafficking in the country which often committed, namely: sending female migrant workers, sending domestic maids (domestic workers), sexual exploitation, slavery, paid brides, child labor, organ harvesting, child adoption, ambassadors of arts, culture, and language, forced labor, and kidnapping of child or adolescence [12].

D. The Challenges of Archipelago Country

In addition to the enormous labor resources, Indonesia is an archipelago nation with the most considerable number of islands globally. With a territorial area of approximately 3.1 million km², Indonesia has 18,110 islands. As a country with clusters of isles, Indonesia borders many neighboring countries such as Malaysia, Singapore, Thailand, the Philippines, Timor Leste, and Papua New Guinea. With this vast territory, Indonesia is dealing with various problems associated with a lack of welfare in regions within the vicinity of international borders. Inequality in economic development has resulted in the broader poverty gap. As a result, these regions are more vulnerable to targeted transit areas for various criminal acts, including human trafficking.

Borders are not only the boundary between one area to another, but they also refer to the point that separates one country from another. According to Soegijoko, several aspects deal with areas outskirts of borders, namely economic, political, defense, and security aspects [15]. One of the border region's potentials is deemed a strategic area for the movement of goods and people.

Another perspective in addressing this issue is that the maritime strategy is critical to protect the state's maritime pathway and boundaries and serve as part of the national security policy [11]. This strategy is of utmost importance due to current international political changes, such as the emergence of non-traditional maritime security issues: illegal fishing, human trafficking, smuggling of illegal goods, piracy, and maritime terrorism [11]. They affect international trade through Malacca Strait, Sunda Strait, and Lombok Strait, which directly border Indonesia. The study's findings suggest that Indonesia needs to reshape her maritime strategy toward significantly reducing threats at territorial waters to prevent the country from risking its national security vulnerability against a recent increase of non-traditional maritime threats.

With regards to Indonesian migrant workers, these three aspects play an extraordinarily complex role. Because in terms of political, defense, and economic aspects, the border areas handle the wellbeing of Indonesian migrant workers. The above aspects affect border areas because they are considered strategic, as the point of transit and return of deported migrant workers.

According to the National Agency for Placement and Protection of Indonesian Migrant Workers (BNP2TKI), it states that Malaysia is the most popular destination country for Indonesian Workers (widely known as "TKI"). As of June 2019, 90,671 migrant workers were heading to Malaysia [16]. Malaysia is the most favorite destination country for

Indonesian migrant workers due to the similarity of language and proximity to Indonesia.

Because of the large number of Indonesian migrants working in Malaysia, those facing legal issues are also relatively high. In 2019, there were still more than 100 Indonesian migrant workers facing the death penalty in Malaysia. In the same year, it was reported that at least 104 Indonesian migrant workers were repatriated through Nunukan [18]. There are still around 600-700 Indonesian Migrant workers who are currently in detention at Malaysia prisons.

As one of the border regions, the Riau Islands is one of the transit areas for Indonesian migrant workers. Riau Islands is bordered by Vietnam, Cambodia, Malaysia, Singapore, including other Indonesian territories such as West Kalimantan, Bangka Belitung, and Jambi. As one of the provinces that consist of isles, the Riau Islands bear a reasonably heavy responsibility to overcome trans-national crimes, including trafficking. The Riau archipelago also serves as a transit area for migrant workers and potentially poses various transnational crime issues.

According to the problem above, there are three primary aims of this research:

- Investigate human trafficking via seaport in Riau Island.
- Identify the mitigation strategy of human trafficking.
- Introduce the tech-tools to anticipate the potential of human trafficking.

In terms of the study's scope, this article only focuses on the process of transporting migrant workers who could be potential victims and the efforts to mitigate and anticipate this crime.

II. MATERIAL AND METHOD

A. Research Design

The qualitative approach was selected for this study because it provides a rich array of data collection methods, interviews, observations, and documentation [19]. The primary data was collected from in-depth semi-structured interviews and non-participation observation. The secondary data was collected from desktop research, especially evaluation reports from the National Agency for Placement and Protection of Indonesian Migrant Workers (BNP2TKI), National Central Statistics Agency, the Riau Islands Social Service office, WNI-M-KPO Shelter House, and various parties related to the handling of Indonesian Citizens on Trafficking Victims.

In terms of research design, a case study is a robust research method because the human trafficking issue requires in-depth investigation. The advantages of using a case study are less time-consuming, efficient, and less costly since it concentrates on a single phenomenon, particularly human trafficking in seaports of Riau Islands. As an area bordering with Singapore and Malaysia, Riau Islands is mandated by the Central Government to resolve problems associated with the repatriation of Indonesian migrant workers who are victims of trafficking and arrested by the Malaysian Authorities. This province is the main exit and entry point for victims and transporters because of convenient transportation and proximity to neighboring countries that offer more job opportunities. These public ports are supported by the

availability of various small ports built by coastal communities for fishing and are sometimes used to load and unload illegal goods from neighboring countries.

B. Research Setting

The fieldwork was conducted between June and December 2019 in the capital city of Riau Islands, Tanjung pinang, especially seaports, provincial social service, and human trafficking victims' shelters. Tanjung Pinang is one of the few places to accommodate Indonesian migrant workers repatriated from Malaysia due to being victims of trafficking. Based on information from the center for trafficking victims, almost every week, there are Indonesian migrant workers who are repatriated through the port of Sri Bintan Pura Tanjungpinang. Therefore, the Riau islands, specifically Bintan island and Batam island, were selected as sample case studies because these islands are vital locations for sending and receiving victims of human trafficking.

C. Data Collection

Data collection activities were conducted through interviews with key informants following interview guidelines. Semi-structured interviews were held to seek insights into the handling of Indonesian victims of trafficking. The determination of research informants was purposive, whereby the selected informants were considered capable of sharing their experience, insights, and opinion regarding the problem of human trafficking in Indonesia. The interviews were transcribed and translated partially from Bahasa Indonesia into English. The informants were selected from various backgrounds, covering three social service executives, two managers of shelters, two officers of migrant worker service, placement and protection center, victims of trafficking, and civil society organization activists. Researchers selected them to obtain detailed and nuanced understanding and some insider stories.

D. Data analysis

Data analysis was performed in two stages. Firstly, primary data collection in the form of interviews and observations with informants. Secondly, secondary data collection in quantitative data from documents or reports searches from 2018 to 2019.

III. RESULT AND DISCUSSION

A. Riau Islands as Border Area

Malaysia, Singapore, Vietnam, and China, and several provinces in Indonesia make the Riau Islands one of the entries and exit points for Indonesian to leave the country. Singapore and Malaysia are the leading destinations for Indonesian due to similarity of language and culture, proximity to locations, and convenient transportation means. Departures from and to Singapore or Malaysia via the Riau Islands by sea only take about one and a half to three hours. Sea ferries trips bound to Malaysia and Singapore are available every 30 minutes. The convenience is not only because of the availability and accessibility to sea transportation facilities but also the freedom to reach Malaysia and Singapore without a visa. A visa-free agreement to Malaysia and Singapore was set up in 1992 based on the

Singapore, Johor and Riau treaty (or SIJORI). Indonesian migrant workers capitalized on this opportunity to reach Malaysia or Singapore and try their luck looking for work in the hope of a more prosperous income. Nevertheless, some Indonesian travelers exploited this freedom by leaving for Malaysia or Singapore with only a tourist passport.

B. The Journey of Human Trafficking

1) *The Ideal journey for the legal migrant worker:* The journey of Indonesian migrant workers to reach Singapore or Malaysia could be through two routes, legal and illegal. Legally, migrant workers are registered in the Indonesian Employee Placement And Protection Services (P3TKI) Riau Islands. They depart from the official seaport and pass through immigration officers. There are several points for sending migrant workers through legal channels: seaports in Batam and Tanjung Balai Karimun. The means of transportation used are vessels such as ferries or speed boats owned by private companies in the Riau Islands. Harborfront and Tanah Merah are the main ports in Singapore, while Stulang Laut and the Johor Waterfront are the main ports in Malaysia. Besides, the Pasir Gudang Port in Johor also serves trips to Tanjungpinang and Batam.



Fig. 1 Ferry in a legal seaport

2) *The victims and transporter's journey:* Unlike the legal journey, migrant workers who leave illegally do not register themselves in P3TKI, so the government could not detect them. There are two types of illegal migrant workers groups in the Riau Islands: those who work with and without a passport. The first group is migrant workers who have a tourist passport would likely leave through the official port and pass-through immigration officers. This group will leave for Singapore or Malaysia using a tourist passport then illegally work once they arrived in the destination country.

Another group is illegal migrant workers who do not have any official documents leave from the illegal seaport. The undocumented group without passports and work permits would leave through illegal routes, namely ports where immigration officials are not available. This port is known as the "rat" harbor. It turns out that residents or outsiders of the Riau Islands still commit illegal departure of workers.

This group is a group that is vulnerable to legal issues in the destination country. In Malaysia and Singapore, local immigration officials chase them. The facts suggest that the number of Indonesian migrant workers in the Riau Islands

Border region is dominated by workers embarking on Malaysia as a destination country.

Indonesian migrant workers bound to Malaysia are dominated by workers outside the Riau Islands who do not possess official work permits. Also, the undocumented group generally chose to work in plantations because the location is far from urban areas, which typically less trackable by immigration officers. The undocumented workers are mostly brought by the “cukong” (or brokers) or friends. Some even claimed that their arrival had been awaited by family members who had long lived in Malaysia. Besides, the cause of a large number of migrant workers leaving to Malaysia was due to a slightly loose policy in Malaysia for workers from Asia, one of which was Indonesia.

On the other hand, undocumented migrant workers are vulnerable to trafficking and criminalization. This situation has made a large number of repatriating Indonesian victims from Malaysia. The various cases experienced by them in Malaysia are also very vast. Based on the level of education, it turns out that not all migrant workers who go through illegal channels are uneducated people.

3) *Illegal Journey*: Typically, sending illegal workers is carried out by “toke”, a term for barons sending workers from outside the Riau Islands. They depart by using wooden boats. These boats are normally used to transport goods from Singapore and Malaysia. The goods brought from Singapore and Malaysia are also include smuggled goods entering the Riau Islands. The points used by Indonesian migrant workers that depart illegally are ports that do not have immigration officials. These ports are very numerous and widespread across various islands in the province. Ports indicated as rat ports are Batu Aji seaport in Batam island and various other seaports in Bintan island and Karimun island.



Fig. 2 Boats in an illegal seaport

As shown in figure 2, Wooden boats are one of the means used to cross illegal migrant workers to Malaysia. These boats are an example of sea vessels which is commonly used to smuggle victims. There is no guarantee of passengers' safety during the trip and after arriving in the destination country. The port, which is shown in the figure above, is an example of the port where the illegal shipment of migrant workers and illegal goods from Malaysia and Singapore.

Illegal journey tends to be dominated by people leaving to destination country such as Malaysia. They travel illegally because of cooperation between the sender or agent with the migrant workers themselves. Migrant workers who choose the

illegal route already have a network with Indonesian workers already in the destination country. Typically, they have been promised job offers. This process shows how the illegal migrant workers as victims of human trafficking crossing the sea border to Malaysia. They are facing an intractable problem. As one interviewee said:

“I am concerned about the condition of human trafficking victims in Malaysia. Victims who managed to return to their hometown or arrive at Tanjung Pinang are those who have money. Otherwise, they would be left stranded there.” (Interview, 23rd June 2019)

C. Mitigate Human Trafficking in Riau

The victims from Malaysia were initially arrested and detained in prison before returning. After being detained, they were required to leave the country. From interviews with an employee of the social services office, Indonesian victims originating from Malaysia have declined since 2015. According to their data, the number of Malaysia victims was 12,545 people in 2017 and 2,455 people in 2018, respectively. The significant decrease, not because of a drop of Indonesian migrants working in Malaysia but the policy that detained them from returning home immediately, mainly when they have been imprisoned by Malaysian immigration. One informant commented:

“The Malaysian government has passed a new policy on refraining from financing the repatriation of troubled Indonesian citizens in Malaysia. Meanwhile, the Consulate General of the Republic of Indonesia would only “perfunctory” assist them. So, the victims were forced to repatriate at their own cost.” (Interview, 24th June 2019)

The implementation of the moratorium has made an impact on migrant workers' departure abroad. Several labor service agencies have closed down their representative businesses in the Riau Islands with the moratorium's existence. This situation is supported again by the increasingly tight supervision for sending Indonesian migrant workers that could potentially be the victims of human trafficking. Through the National Agency for the Placement and Protection of Indonesian Workers (BNP2TKI), the Indonesian government has begun to take over the role to be an official supplier of Indonesian migrant workers. With their existence, Indonesian Migrant workers will be protected. Additionally, it may reduce the number of Indonesian migrant workers (PMI) who illegally leave the country.

Moreover, the journey of illegal migrant workers at the Riau Islands has been decreased recently due to the tight supervision carried out by the security and immigration officers in the Riau Islands. The authorities such as sea police and navy nearly always held patrols to monitor small ports or “rat” ports. As one interviewee put it:

“The Ministry of Social Affairs is responsible for handling cases of human trafficking victims. The ministry is working with the local authority to repatriate Indonesian citizens from various countries, from Malaysia up to Chinese territories.” (Interview, 25th June 2019)

On the other hand, the Indonesian Marine and Air Police Corps shall organize regular training about search and rescue at sea deployment and the handling of irregular maritime arrivals. This training aims to increase ship commanders and marine police directors' experience and expertise in the encountering of migrants arriving by sea [13]. One individual stated:

“The main obstacle we are facing is that we would never know when victims of human trafficking would reach the Riau Islands. Everything is happening without notice.” (Interview, 24th June 2019)



Fig 3. Rescue Boat for Human Trafficking Victims [13]

Although several attempts have been made to tackle the problems, this mitigation effort shall continually reduce human trafficking victims. In August 2019, a migrant worker from Lingga Regency was criminalized to death [18]. State institutions need to work together with anti-human trafficking activists, regional and international institutions to rescue migrant workers being victimized by human trafficking. The state has passed Law No. 21 of 2007 concerning the Elimination of Criminal Acts on Human Trafficking in protecting Indonesian citizens and avoiding human trafficking. The enactment of the Act is expected to be the basis for protecting Indonesian migrant workers who are victimized by trafficking. Based on Law no. 21/2007, the Social Services Office shall be carrying out its role as an institution that seeks to protect victims of human trafficking from Malaysia.

Through the Riau Islands' social service, the Ministry of Social Affairs provides several amenities to facilitate Indonesian citizens who are victims of trafficking. Another mitigation strategy is providing a safe house which was initially named the trauma center shelter. Currently, it becomes a migrant Indonesian Citizens, a victim of Human Trafficking (WNI-M-KPO).

Tanjungpinang is one of the areas designated by the Ministry of Social Affairs as a shelter for troubled Indonesian migrant workers being repatriated and victims of human trafficking from Malaysia. WNI-M-KPO Shelter is a temporary shelter for individuals who are repatriated from other countries. However, the Indonesian citizen-M-KPO drop-in center specifically accommodates repatriation victims from Malaysia. All returning Indonesian Migrant workers repatriated from Malaysia are considered victims of trafficking cases. As the interviewee said:

“Victims may choose to return directly to their hometown if they have financial means to pay for air or sea public transportation fare. Victims can also transit at the shelter posts in Tanjung pinang or Batam by purchasing boat tickets. Unfortunately, we have limited resources to support shelter posts in Batam. As a result, there are many victims that we cannot treat properly there.” (Interview, 25th June 2019)

This graph illustrates the data about the repatriation of migrant Indonesian citizens as victims of human trafficking repatriated from Malaysia in 2018.

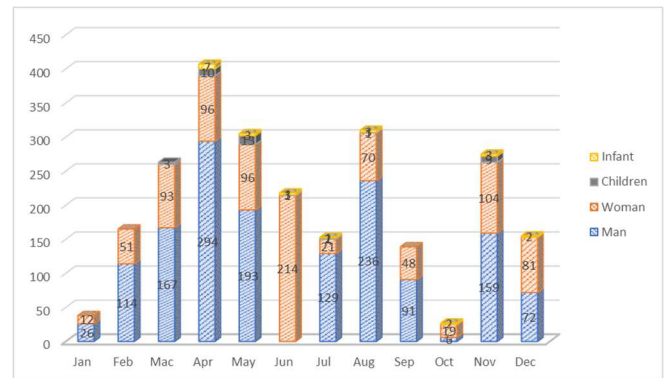


Fig. 4 The Repatriation of Human Trafficking Victims in Riau Island [17]

The data obtained from a secondary analysis of weekly victims' return through the port of Tanjung Bintang Pura, Tanjungpinang, in 2018. These graphs show that the victims of returning Indonesian citizens working in Malaysia fluctuate or unstable. Sometimes, there is an increase in the number of victims, both men, and women. Based on the data, the majority of victims were male. This finding does not support the previous research that the majority of victims are women and children. In June, there were only female victims who were repatriated through the port of Sri Bintan Pura.

D. Technology to Anticipate More Problems

Contemporary human trafficking issue is not only deal in the offline world but also the online world. There will likely always be both demands for the supply of people who will enable slavery. Seaport is open space to transnational borders. One of the relevant findings is that Indonesia lacks dedicated anti-human trafficking systems. Police and immigration officials have yet to play their roles in identifying victims and traffickers effectively.

On the one hand, they lack the tools and expertise needed to eradicate human trafficking. Tech companies are reluctant to invest and cultivate in this sector which is not lucrative and attractive enough. On the other hand, some traffickers and transporters are family members or relatives of the victim who receive benefits by earning money after the transaction.

The Indonesian government has not touched on the intervention of technology as a strategy to mitigate human trafficking. Face recognition in mobile apps is not a luxury technology to be equipped by immigration or police officers. This face recognition app in smartphones generates the result of above 70% of accuracy. This result can be interlinked with the data of missing people from local police officers. Then, they can immediately file a report. Smartphones, Apps, and social networks have enabled new forms of investigation of crime, making it easier to identify potential victims. A mobile app, such as “Facetagr”, highlights the advantage of facial recognition technology in eradicating child trafficking in the Railway station of Bengaluru, India.

In identifying the culprits behind the trafficking, an automated facial recognition system can be applied in conjunction with a closed-circuit television camera (CCTV) system. This technology could serve as a universal eye that has insight into everything. The CCTV provides a brief analysis of face recognition, potentially helping police recognize the previous or current defender. This smart camera system, along with the criminals' database, can assist seaport

officers in giving immediate response so that police can anticipate the possible tragedy that would happen.

Facial recognition systems can help in tracking both victims and perpetrators. Travelers' faces can be compared against missing person databases if facial recognition systems are placed at gates of entry and exit. These systems could also be used to identify missing persons or suspected trafficking victims and transporters or the actor behind this crime.

Facial recognition technology is not a panacea due to its limitation in tracking the international database of victims and defenders behind this crime and victims. Video and Images have to be compared against international databases to get accurate information about actors suspected of being involved in human trafficking. Not all victims of trafficking would be captured into areas that might have cameras.

In overcoming trafficking cases, the government has a stake and must determine a firm attitude in handling and eradicating it. According to Hamid et al., a model for handling victims of trafficking is required and evaluating and improving the system for cases of comprehensive tackling of trafficking victims [1].

Anticipation strategy shall focus on the immune response to an undertreated disease of the internet. Human trafficking in Indonesia has been classified as "severe" and needs to be addressed urgently. Moreover, in this digital era, opportunities for perpetrators in committing the Act of human trafficking increase. The majority of victims can be traced back to cyber-based communication exchanges via Facebook and Twitter. In 2018, KPAI recorded 329 victims related to child trafficking. Of that number, 65 of them were victims of human trafficking, 93 victims of prostitution, 80 cases of sexual violence, and 91 cases of workers' exploitation. Until mid-2019, KPAI received 15 cases, five of which were victims of trafficking, one victim of prostitution, five victims of sexual violence, and four victims of child labor exploitation [12].

Based on internet-based crime, there is one particular modus operandi in which the victim was involved in a virtual romantic courtship for about six months. The approach was very intense, starting from the introduction by understanding the character of the teenager. In trapping their prey, the perpetrators were usually quite patient and persistent.

There is a necessity for tech tools that would dig deeper into the online supply chain of child pornography to control it closer to the source. Anticipated tech tools could be software crawling the dark web to find new imagery. Thorn, a non-profit organization, created a software project called *Spotlight* to investigate underage sex-trafficking victims. This tool uses text and image processing algorithms to match faces and other clues in online sex ads with other evidence. This software returned a list of online sex ads featuring children's photo using facial recognition technology. The rescue illustrates the strategy of nurturing new technology to combat child sex trafficking and exploitation online.

Figure 5 provides the intercorrelations among tech tools that potentially could anticipate human trafficking. First, the Face App can be utilized by immigration officers to identify the possible victims from vulnerable groups, either children or women, in which the data is interlinked with the missing people. Second, there is a high probability that smart CCTV helps police officers analyze previous or current defender who

relates to human trafficking crimes. Lastly, the software is designed to crawl and dig the victims in the dark digital world. It is imperative to use all tools available to help alleviate human suffering to combat the crime that egregiously violates human rights. Taking advantage of using leading-age technology should be a priority, especially given there is already a massive scale of such a problem and the grave consequences for the individuals involved.

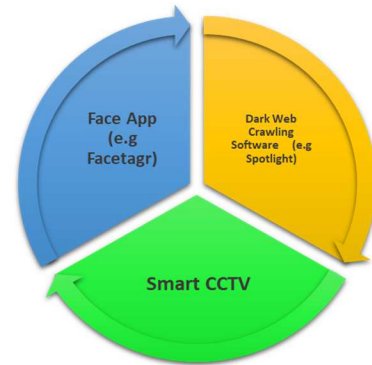


Fig. 5 Tech tools to anticipate human trafficking

IV. CONCLUSION

Addressing human trafficking involves dealing with complicated issues like socioeconomic inequality, black market economies, and weak institutions. The human trafficking syndicate exploits the situation of lacking attention and protection for citizens. Efforts in providing protection have not been maximized because law enforcement officials have not upheld Law No.21 of 2007 concerning the Elimination of Criminal Acts of Trafficking in Persons. State institutions need to work together with anti-human trafficking activists, regional and international institutions to rescue migrant workers being victimized by human trafficking. The intervention of technology can help collaborative stakeholders identify victims and finally stop the exploitation of marginal groups, especially children and women, for organ trade or the sex industry. If the debate moves forward, a better understanding of cybercrime of human trafficking needs to be developed. Due to the shift of crime from offline to online, significant changes, both practice, and policy to mitigate and anticipate human trafficking need to be formulated by all related parties.

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