

addictions. Statistics show that women remain most affected.¹²⁶ The majority of female victims are being trafficked for the purpose of sexual exploitation; men and children often have to serve in forced labour, inter alia as beggars or soldiers. Depending on the current demand, victims are selected for certain features such as exotic origin, virginity, fighting experience, or other skills. In change for preferential treatment, the most manipulable out of a group of trafficking victims will often be given an alleged position of responsibility to watch over the other victims or help with the accounting and administration of the business.

Investigating human trafficking is seen to be the easiest at a low level, thus at victim stage. Monitoring the financial interactions of victims can facilitate investigations and may even lead them to the trafficker or the individual laundering the proceeds of the crime.¹²⁷ Victims of human trafficking for the purpose of sexual exploitation often show suspicious types of transaction. These may involve little to no expenses for daily needs like groceries, petrol or rent but extensive accommodation, restaurant and taxi fare payments.

2.3.3 Employer

Trafficked persons are often being sold to different employers for a variety of purposes both in the construction and textile industry, agriculture and domestic services. Their wages oftentimes get sent directly to the traffickers, who invoice the victims for the accrued costs of transport, migration, accommodation et cetera. In some cases, the employer might not be aware of the trafficked status of the employed person. Large companies often use offshoring and outsourcing as ways to keep their labour costs lean. They are seldom held accountable for their (indirect) involvement in trafficking.¹²⁸ In general terms, this means that trafficked workers are a cheap and uncomplicated source of labour for any market-orientated business, showing the neoliberal character of labour exploitation.¹²⁹

126 International Labor Organization & Walk Free Foundation *Global Estimates of Modern Slavery: Forced Labour and Forced Marriage*, (2017); UNODC (2016).

127 FATF (2018) 21.

128 Sharapov K (2014) 3.

129 Mendel J & Sharapov K 'Human Trafficking and Online Networks: Policy, Analysis, and Ignorance' *Antipode* 48.3 (2016) 665–684 at 669.

In the case of trafficking for the purpose of prostitution, the employer is called a pimp. He or she gets most of what the prostituted person earns with the exploitative duty while controlling every step of theirs. The pimp and the trafficker may be identical and the prostituted person becomes interloped into the business by a mixture of lies and extortion. However, not every prostituted person is under the control of a pimp¹³⁰, and neither does 'being pimped' necessarily include forced prostitution or entail a trafficking history. Trafficked people are not always employed in the conventional sense of the word. Sometimes the aim is to merely sell the victim. Forced marriage and adoption fall under this category.

2.3.4 Consumer

Among the rather invisible actors of the human trafficking arena, people who use the service of a trafficked person, act as the driving force in the vast spread of the crime. Just like the employer, the consumer aims to pay the lowest price in change for the highest benefit.¹³¹ In the milieu of prostitution, this person is commonly referred to as John, 'the invisible subjects of the sex industry'¹³². That prostitution is the oldest business in the world serves as a common excuse. The John is often not aware of a person's trafficking history. In addition, interviews with men who use the services of prostituted women reveal a certain ignorance of coercive situations.¹³³ Among the interviewees, it is assumed that prostitution is always a free choice.

Another widely believed myth is 'that the concept of rape simply does not apply to women in prostitution'¹³⁴. The assumption that prostitution would help to prevent rape, legitimises violence against women. It creates an overall acceptance, almost compassion for the men who have to purchase sex in order to fulfil their needs. While misogynistic attitudes are prevalent, other issues certainly play a role, including toxic masculinity, peer pressure, a lack of effective deterrents.

130 Thakor M & Boyd D (2013) 285.

131 Wheaton EM et al (2010) 130.

132 Marttila AM (2008) 'Desiring the "Other": Prostitution Clients on a Transnational Red-Light District in the Border Area of Finland, Estonia and Russia' *Gender Technology and Development* 12 (2008) 31-51 at 42.

133 Farley M Bindel J & Golding JM *Men Who Buy Sex: Who They Buy and What They Know* London (2009) 6.

134 Farley M Bindel J & Golding JM (2009) 13.

Demand has a significant impact on the human trafficking market and therefore holds potential to combat the crime. Domestic jurisdictions vary enormously in their approaches towards prostitution. Germany and the Netherlands for example legalised prostitution so that both the offering and the receiving person go without charges. This is referred to as the sex work approach and aims at legitimising all aspects of prostitution in order for it to become a socially accepted occupation. It often goes in line with a regulation of the industry. Further research suggests what has been touched upon above, namely that 'paid sexual access to human bodies'¹³⁵ may raise the acceptance for dehumanising behaviour, particularly targeting female. So, while a regulation of the sector is aimed at the protection of sex workers, it may on the contrary legitimise sexual violence against women.

In contrast, the sexual exploitation approaches seek to abolish prostitution in general. There is no consensus on the most effective way to achieve this.¹³⁶ In roughly half of the African countries and most of South America there is no specific regulation to criminalise prostitution, while organised activities such as brothels and pimping are illegal. This approach pushes many sex workers on the streets and is likely to result into even more dangerous and criminal milieus.¹³⁷ Both the Russian legislation and a majority of the US chose the so-called prohibitionist approach, targeting all actors of prostitution with the power of criminal law.¹³⁸ The act of adult prostitution itself constitutes a crime. The person paying for sexual services can face charges for solicitation of prostitution and any middlemen involved in the transaction can be held accountable for pimping or pandering.

Another alternative is the so-called Nordic Model¹³⁹, which decriminalises the behaviour of those who are (being) prostituted. Instead exit-support services, which can be legally-run and state-funded, are provided. Canada, France, Iceland, Ireland, Israel, Northern Ireland, Norway, and Sweden adopted respective legislation in an approach to decrease the demand side of sexual exploitation through criminalising

135 Richardson K (2016) 7.

136 Simmons B, Lloyd P & Stewart BM 'The Global Diffusion of Law: Transnational Crime and the Case of Human Trafficking' *International Organization* 72.2 (2018) 249–281 at 253.

137 Limoncelli SA 'The trouble with trafficking: Conceptualizing women's sexual labor and economic human rights' *Women's Studies International Forum* 32.4 (2009) 261-269 at 262.

138 Chuang JA (2010) 1669.

139 For more information refer to <https://nordicmodelnow.org> (visited 29 April 2020).

the act of buying people for sex. This approach is deemed to account for the discrepancy between male and female power.¹⁴⁰

2.3.5 State

Legislation is only one aspect showing the influential power of national governments. Their role as a safeguard for human rights should force them to take preventive measures. So far, there has not been a lot of international attention drawn to national states' responsibility in creating factors that lead to trafficking. The conditions in which crimes like human trafficking flourish are manifold. In this context, neoliberal state policies with regards to the management of migration is an aspect, which that is too often neglected.¹⁴¹ Albeit its complexity, human trafficking is commonly pictured in a good versus bad framework, neglecting the role of states and other facilitating contributors.¹⁴²

2.4 THE FRAMING OF HUMAN TRAFFICKING

Although human trafficking is recognised as a crime by almost every country in the world – and a matter of international concern – it is not limited to transnational contexts. There is a national dimension as well. As the documented trafficking cases in Europe commonly show a transnational context, the EU attributes trafficking a border-crossing character. Whereas trafficking in other regions largely takes place at national level. Indian law enforcement agencies are faced with an internal problem, where local traffickers 'target those from the most disadvantaged social strata'¹⁴³.

2.4.1 Human Smuggling

Human trafficking is often confused with human smuggling, which in contrast does require both an illegal border crossing and in general the consent of the smuggled person. As stated above, committing human trafficking does not require any act of movement whatsoever. It can occur within one's own home. The two crimes are similar and may overlap, but a distinction is important in terms of victim protection. Incorrect expulsion harbours the risk of being re-trafficked. While trafficking requires an ongoing exploitation, the relationship between the smuggler

140 Richardson K (2016) 6.

141 Geiger M & Pécoud A 'International Organisations and the Politics of Migration' *Journal of Ethnic and Migration Studies* 40.6 (2014) 865–887; Sharapov (2014) at 3.

142 Miliwojevic, Moore & Segrave (2020) 16-32 at 25.

143 TIP (2019) 239.

and the migrant usually ends after the border crossing and involves a commercial transaction. The smuggler's source of profit confines to the transfer fees, whereas the trafficker additionally acquires profits through the exploitative practise.¹⁴⁴

2.4.2 Human Rights

Like traditional human rights violations, human trafficking is characterised by the disproportionate power of perpetrators over victims.¹⁴⁵ The success of the crime hinges on the vulnerability of people, hence it thrives in milieus of inequality and marginalisation. A human rights-based approach to anti-trafficking is above all victim-centred in that it focuses on their identification and protection. It highlights the special vulnerability of women and children, while recognising the full spectrum of rights violations in the trafficking cycle.¹⁴⁶ The strong focus on sexual exploitation within the anti-trafficking discourse is neutralised here, because protection is equally advocated for all victims, regardless of the trafficking purpose.¹⁴⁷

This approach holds states accountable for providing the breeding ground for criminal behaviour, ergo, is popular among non-state actors.¹⁴⁸ Human Trafficking is no novelty to the human rights agenda, although mainly featured in the organised crime system. The Rome Statute constitutes trafficking in human beings as a crime against humanity, addressed within the context of enslavement.¹⁴⁹ Most international human rights treaties and conventions refer to trafficking.¹⁵⁰ Domestically, border security seems to precede the protection of victims' rights.¹⁵¹ While drawing attention to the long-neglected victims' perspective, the human rights-based approach does

144 UNODC (2008) 5.

145 Bassiouni MC et al *Addressing International Human Trafficking in Women and Children for Commercial Sexual Exploitation in the 21st Century Revue Internationale de Droit Penal* (2010) 488.

146 Simmons B et al (2018) 252.

147 Pescinski J (2015) *A Human Rights Approach to Human Trafficking* United Nations University, Institute on Globalization, Culture and Mobility, available at: <https://gcm.unu.edu/publications/articles/a-human-rights-approach-to-human-trafficking.html> (visited 18 May 2020).

148 Amnesty International (2004; 2010).

149 Rome Statute of the International Criminal Court (1998) Article 7 Para 2 Subparagraph c.

150 They include the Universal Declaration on Human Rights (1948); International Covenant on Civil and Political Rights (1976); Convention on the Elimination of all Forms of Discrimination Against Women (1979); Convention on the Rights of the Child (1990); UNCTOC and the supplementing Protocols (2000).

151 Charnysh V, Loyd P & Simmons BA 'Frames and Consensus Formation in International Relations: The Case of Trafficking in Persons' *European Journal of International Relations* 21.2 (2015) 323–351 at 334.

not offer grounds for all required interventions. With regards international cooperation and law enforcement challenges, a pure human rights channel is insufficient.¹⁵²

Nevertheless, a significant part in literature argues, that human rights should not only be an additional consideration.¹⁵³ They constitute the common ground ‘which should serve as a foundation and reference point for all undertakings in this area’¹⁵⁴. Humanitarianism¹⁵⁵ refers to the increasing manner in which persons and groups are perceived as particularly vulnerable with regards to their migration status or sexual behaviour. Humanitarian concerns often serve as justification for anti-migration or anti-sex work policies and interventions. The distinct focus on the sexual exploitation dimension of human trafficking makes it an apparent female problem.

2.4.3 Transnational Organised Crime and Migration

Human trafficking is the fastest growing illicit flow¹⁵⁶ and supposedly interconnected with other crimes such as money laundering and illegal migration. Not least because its potential to fund further crime, terrorism and war, human trafficking rapidly gained attention on the international agenda over the past two decades.¹⁵⁷ Although the link to an increase in other illicit flows is not based on available data¹⁵⁸, human trafficking is commonly viewed from an organised crime perspective. As touched upon above, threats to national security and state authority urge states to take measures, whereas endangered human rights often fade into the background of motives. Globalisation in general, and newly opened borders specifically, brought chances and challenges for the global community. Especially developing and newly established states were tested on the ‘ability to control their borders and stabilize their legal institutions’¹⁵⁹.

152 Gallagher A (2001) 982.

153 Gerry F, Muraszkiwicz J & Iannelli O ‘The Drive for Virtual (Online) Courts and the Failure to Consider Obligations to Combat Human Trafficking – A Short Note of Concern on Identification, Protection and Privacy of Victims’ *Computer Law and Security Review* 34.4 (2018) 912–919 at 916; Simmons B et al (2018) 252.

154 Gallagher A (2001) 1004.

155 Kotiswaran P (2014).

156 Shelley (2010) 2.

157 Simmons B et al (2018) 250.

158 Simmons B et al (2018) 275; Weitzer (2014) 13.

159 Simmons B et al (2018) 254.

Transnational organised crime increased significantly in scope and impact.¹⁶⁰ The growth is linked to trade liberalisation, having encouraged mass movements of people and commodities around the world. International crime networks emerged at unprecedented pace to a point where border control is a number one national concern. This drives a competition, which entails legislative pressure. On one side, states want to secure their legal authority and lower their crime rates. Concurrently, economic growth is on top of the agendas. Scarce trade and tax regulation can create business friendly markets that attract investment and financial flows. Disparate domestic legislation can lead to crime diversion. When a certain business is criminalised in one country it may simply be shifted to another where regulation has not taken place (yet).¹⁶¹ These dynamics are likely to affect neighbouring countries, leading to border conflicts. Instead, the crime could be deterred by raising the costs and risks for criminals. Viewing human trafficking as a pure trans-border issue will only ever tackle a part of the problem. Many industrialised countries are criticised for having exploited the Trafficking Protocol solely as an instrument of border control.¹⁶² There is a need for international cooperation and mutual legal assistance in law enforcement, which is not much highlighted in the discussions about the migration side of the problem.

2.4.4 Economy and Labour

While it is important to understand human trafficking as an encroachment on human rights, the economic element shall not go unrecognised. Trafficking creates a market, where human beings are the product. The traffickers embody the supply side and demand is determined through employers and consumers. The involved actors base their decisions on cost-benefit analyses. Easy access, low start-up costs, minimal risk, high profits, and a large demand make the market so appealing to traffickers.¹⁶³ Market forces do not abide by the law.

Global competition intensifies based on product features, availability, the quantity of 'alternative products available, and the negotiating acumen of the

160 UNODC (2010) 39-52.

161 Simmons B et al (2018) 257.

162 Kotiswaran P (2014) 361.

163 Shelley (2010) 4.

trafficker'¹⁶⁴. As cheap and replaceable labour force, trafficking victims are at risk of abuse in their new work environment. There are little incentives needed to keep them obedient. Using anti-human trafficking law as a corrective for state failure in migration management neglects the economic facet and the link to domestic labour markets.

2.4.5 Sexual Exploitation

Historically, anti-trafficking was primarily located within the sexual exploitation and prostitution context. Abolitionists joined the table and anti-sex work efforts were disguised as anti-trafficking efforts.¹⁶⁵ The political and moral debate on this point would exceed the scope of the present study. Hence, the sexual exploitation frame shall only be mentioned for the sake of completeness.

2.4.6 Interim Findings

Domestic legislation and international treaties follow the elucidated framings. Depending on the frame, the main obligations range from securing human rights to enforcing stricter (migration, prostitution, trade) regulation. Preventing policy diffusion by setting global standards cannot come at the cost of states' sovereignty. At the same time, a competition about the strictest governance is also not conducive. Social norms and market-driven economic logic imply an assessment of 'the counterintuitive economic consequences of anti-trafficking regulatory options'¹⁶⁶.

The interface between law and economy makes the fight against human trafficking part of a larger concern surrounding the forces of globalisation.¹⁶⁷ Apart from a social issue that highlights political cleavages, human trafficking is in essence an alarming humanitarian crisis. The several billion USD per year¹⁶⁸ generated by this industry has resulted in a shift of focus onto economy. The business deprives freedom for profit. A consensus is emerging towards 'a holistic approach where the

164 Wheaton EM et al (2010) 119.

165 Musto J, Thakor M & Gerasimov B 'Editorial: Between Hope and Hype: Critical evaluations of technology's role in anti-trafficking' *Anti Trafficking Review* 14 (2020) 1-14 at 2.

166 Kotiswaran P (2014) 363.

167 Bassiouni MC et al (2010) 490.

168 Despite the lack of statistics, estimating the proceeds of trafficking has become a rhetorical strategy trend and numbers from 5 to 120 billion can be found, see e.g. Raymond JG, D'Cunha J, Dzuhayatin SR et al 'A Comparative Study of Women Trafficked in the Migration Process' *CATW* (2002); ILO (2014) 13.

crime control aspects of trafficking were addressed along with traditional human rights concerns.¹⁶⁹

Joining forces in counter-action does not come without challenges, as will be seen throughout this study. So far, it has pointed out the urge to act globally and in an intersectional manner.

2.5 THE CAUSES AND FACTORS

Concerted counter-efforts are sufficient when the reasons for trafficking are identified and understood. As suggested above, a variety of circumstances can lead to human trafficking. Their continuous assessment is an essential tool to improve the response to the developing crime. While some factors can be understood as roots, others merely facilitate the crime. Despite an overlap of these categories, a separation can contribute to understand the evolution of trafficking and adapt corresponding counter-measures. Additionally, the elimination of root causes should be located in the prevention work area as opposed to the reactive manner in which to deal with the amplification factors.

2.5.1 Root Factors

The breeding grounds include political instability and conflict, poverty, corruption, lack of employment opportunities and – above all – inequality. Inequalities between and among states, communities, and individuals are causative for the emergence of organised crime in general.¹⁷⁰ They manifest in social inequity, inadequate health care, poor housing conditions, and an overall preservation of traditional class and caste systems.¹⁷¹ In some cases, simply belonging to a suppressed or disadvantaged part of society can lead to mental illness, substance abuse, violence, and homelessness. These factors raise the risk for exploitation.

Correlated with inequality, poverty is another deep-seated root of human trafficking. Victims from low-income regions, driven by the prospective prosperity abroad, are easy targets. The lack of alternatives is a strong push-factor. According to the most recent published estimates on extreme poverty, ten percent of the world's

169 Gallagher A (2001) 982.

170 Blazek M (2019) 17.

171 Barner J et al (2014) 149.

population 'lived on less than US\$1.90 a day'¹⁷². Poverty is, inter alia, provoked by a lack of employment opportunities. While especially in rural areas of developing countries the job variety has never been great to begin with, the recruitment of lower wage jobs decreases even more over time due to digitalisation.¹⁷³ Lacking technological competence, many are hindered to even apply for an aspired job.¹⁷⁴

Other root causes include corruption, political instability and conflict. A correlation between corruption and human trafficking can be ascertained on the basis of the two leading reports in this field. The above-mentioned TIP evaluates each state with regards to their compliance with international anti-trafficking standards. The operating principle of the report is the analysis of national trafficking data and legislation efforts in order to rate states into so-called tiers. Tier 3 countries are defined as 'countries whose governments do not fully meet the TVPA's minimum standards and are not making significant efforts to do so'¹⁷⁵.

Transparency International's Corruption Perception Index (CPI) on the other hand is an instrument to determine the distribution and scale of global corruption. As the name indicates, the processed data purely shows how corruption is perceived as opposed to how much corruption actually takes place. In doing so, the CPI recognises the problem of accumulating reliable data on corruption due to its clandestine nature and various definitions. Instead, the report focuses on tangible information that can be collected. This approach is certainly controversial, yet it constitutes the number one tool to get a grasp of the overall corruption dimensions – especially for industrialised countries.¹⁷⁶ The concept of the CPI is to ask multi-sectored stake-holders, government officials and private individuals about their individual perception of corruption.

When compared, the two datasets show that the majority of states rated as Tier 3 or even special cases under the TIP also show a very low¹⁷⁷ CPI score. These

172 World Bank 'Supporting Countries in Unprecedented Times' *Annual Report 2020*.

173 Bessen JE 'How Computer Automation Affects Occupations: Technology, Jobs, and Skills' *SSRN Electronic Journal* 15 (2015) 31.

174 Zdravkova K 'Reconsidering Human Dignity in the New Era' *New Ideas in Psychology* 54 (2019) 112–117 at 114.

175 TIP (2019) 37.

176 The morally charged debate, led by developing countries against the definitional power of the *first world*, exceeds the scope of this work.

177 On a scale from 0 (highly corrupt) to 100 (very clean).

countries include South Sudan, Syria, Venezuela, Libya, Somalia, and Yemen. Both the perception of corruption and the occurrence of human trafficking are high in these states. Only in a few exceptions the hypothesis does not hold true. Ranking 25 (out of 180 countries) on the CPI, Bhutan shows a relatively low corruption perception, while being listed as a Tier 3 country on the TIP. The opposite goes for Chad and Haiti, which are ranked 165 and 161 on the CPI, while counting as TIP Tier 2 countries (among states like Germany).

After all, corruption and human trafficking naturally correlate. Bribable border officials facilitate the trafficking flow and corrupt societies function as push factors. Because the discussed root causes tend to exist in countries of origin and urge people to leave their homes, they are referred to as push-factors. They are contrasted by pull-factors. Destination countries typically attract with higher standards of living and better working conditions (perceived, anticipated or actual), plus the ever-growing demand for cheap labour.¹⁷⁸

2.5.2 Facilitating Factors

The integration of economies worldwide into a global market is fuelled by human innovation. Trade, capital flow, migration and movement of people, as well as dissemination of knowledge and technology make globalisation an economic issue with social, cultural and political dimensions. Transnational interconnectedness and the liberation of markets have enabled the flow of data, persons, ideas, goods, services, capital, funds, and technology. But well-intended trade agreements and international treaties have also widened inequality gaps between states.¹⁷⁹

It is thought that pre-existing problems such as poverty, discrimination, rural-urban divide, disadvantages, and class systems are intensified.¹⁸⁰ These problems coincide with the aforementioned root causes for human trafficking, suggesting a link. By enabling cross-border transfers, globalisation is seen as a facilitator for transnational organised crime.¹⁸¹ Declined state intervention paired with free markets and reduced border controls are open for exploitation. Some scholars attribute

178 Chuang JA (2010) 1703.

179 Barner J (2014) 150; Shelly L (2010) 42.

180 Kar D 'Globalisation, Illicit Financial Flows Widen Inequality' *Thomson Reuters Foundation* (2013) available at <https://gfintegrity.org/press-release/globalisation-illicit-financial-flows-widen-inequality/> (visited 11 June 2020).

181 Shelley (2010) 2.

housing, medical and psychological assistance as well as education (Article 6 Paragraph 3). Nevertheless, there is an optional tone to these measures. Phrases such as ‘in appropriate cases and to the extent possible under domestic law’ suggest that the regulations are mainly hortatory for the states parties. With regards to the absence of obligations, said section is criticised for not meeting international human rights standards on victim protection.¹⁹⁷

The section ‘prevention, cooperation and other measures’ is mainly seen as the protocol’s law enforcement and security facet. It serves as a border control tool for high-income countries against migrants from low-income areas.¹⁹⁸ The absence of victim identification standards¹⁹⁹ has been pointed out as one major weakness of the protocol, precisely in distinction to illegal and smuggled migrants.²⁰⁰

The trafficking definition provided by the protocol is expansive. Literature has appraised this as anything between a lack of clarity²⁰¹ to sufficiently broad in order to encompass most forms of human trafficking²⁰². In effect, the wide scope enables individual national interpretation, while certain aspects are regulated uniformly.

The textual vagueness of the protocol is interpreted as a price for the high ratification rate. Only three years after its adoption the protocol could enter into force. Although it has been a milestone in the global concert against human trafficking and a long sought-after consensus among countries, it is not immune to criticism. The critique is aimed at the lacking independent evaluation mechanism besides the UNTOC inherent assessment of implementation of the basic standards.²⁰³ In order to create a consensus among states parties²⁰⁴, definitions and obligations were held vague.

197 Gallagher A (2001) 980.

198 Kotiswaran P (2014) 361.

199 Iroanya RO ‘Human Trafficking with Specific Reference to South African and Mozambican Counter-Trafficking Legislation’ *Acta Criminologica: Southern African Journal of Criminology* 27.2 (2014) 102–115 at 108.

200 Gallagher A (2001) 994.

201 Kotiswaran P (2014) 369.

202 Gallagher A (2009) 791.

203 UNTOC Article 32 establishes a Conference of the Parties to the Convention to periodically review the implementation of the convention and the protocols thereto as well as improve the capacity of states to combat transnational organised crime.

204 Jaleel (2016) 575.

The approach of the Trafficking Protocol is comprehensive, expressing the drafters' vision of concerted counter-trafficking efforts. Only through this transnational justice framework was it possible to address issues like mutual legal assistance, extradition, and criminal jurisdiction. Similar to other international treaties, the protocol relies on a blaming and shaming system among the states parties instead of applying a strict monitoring system. Although no control mechanism has initially been established, the aftermath of the convention elaborated specific procedures and rules for implementation review.²⁰⁵ The Conference of the Parties to the UNTOC finally adopted an implementation review mechanism.²⁰⁶ In accordance, the assigned intergovernmental expert group finalised a self-assessment questionnaire for the states parties. It contains 54 questions about the domestic legislation in the field of human trafficking. In addition to the questionnaire, states have the possibility to upload any relevant data or documents to a knowledge management portal known as Sharing Electronic Resources and Laws on Crime (SHERLOC). Hence, the review of the implementation of the protocol is based on the information provided by the states.

The pure reliance on criminal law raised criticism. A counter-example is the Indian approach, where a combination of labour law and criminal law mechanisms is an assumed more efficient way, considering the high corruption rate. This could hold true for other countries with instable or corrupt governments.²⁰⁷

A final shortcoming of the protocol is the failure of mentioning technology-driven trafficking. However, the broad definition can include the recruitment of trafficking victims through online technology. While the protocol does not explicitly address internet-facilitated crimes, the broad scope allows for that inclusion.²⁰⁸

205 The Conference of the Parties to the UNTOC (2018) Resolution 9/1.

206 UNODC (2019) available at <https://www.unodc.org/unodc/en/organized-crime/intro/review-mechanism-untoc.html> (visited 24 June 2020).

207 Kotiswaran (2004) 391.

208 Kunze EI 'Sex Trafficking Via The Internet: How International Agreements Address The Problem And Fail To Go Far Enough' *Journal of High Technology Law* 1 (2010) 241–289 at 271.

2.6.2.2 Other Instruments

Subsequent regional action has indeed closed some gaps²⁰⁹. In 2005 the CoE drafted the Convention on Action against Trafficking in Human Beings, monitored by a Group of Action (GRETA) and currently ratified by 47²¹⁰ member states.

An example for a concerted action task force is the Global Action against Trafficking in Persons and the Smuggling of Migrants (GLO.ACT). The four-year (2015-2019) joint initiative by the UNODC and the European Union (EU) was realised in partnership with the International Organisation of Migration (IOM) and the United Nations Children's Fund (UNICEF). An objective of the project was to enhance the implementation of the Trafficking Protocol and the so-called Smuggling Protocol.²¹¹

Independent from the UNODC structure, the above-mentioned TIP evaluates international efforts to combat trafficking and to adopt international standards. It is supposed to function as a monitoring mechanism, motivating states to enhance their efforts. The report is in critique for the questionable domestic changes and reforms it fortifies in some countries in order to increase their ranking.²¹² 'Still, an assessment of such unintended consequences should not dissuade us from improving the bargaining power of workers.'²¹³

Former US President, Barack Obama, has laid a significant emphasis on the fight against human trafficking.²¹⁴ In a 2012 federal anti-trafficking campaign he has made distinct statements, following the policies of the Bush administration with

209 Gallagher A (2009) 791.

210 Ratification status available at https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/197/signatures?p_auth=bKsFe7TP (visited 20 June 2020).

211 <https://www.unodc.org/unodc/en/human-trafficking/glo-act/overview.html> (visited 24 June 2020).

212 e.g. when minimum wage is a mandatory labour law an unintended effect could be less employment and more people at-risk of being trafficked.

213 Kotiswaran (2014) 392.

214 Latonero M et al *The Rise of Mobile and the Diffusion of Technology-Facilitated Trafficking* USC Annenberg Center on Communication Leadership & Policy: Center on Communication Leadership & Policy (2012) at 14; Harris R & Goncalves D *Combating Human Trafficking* (2017) at 3; Tien MT 'Human Trafficking: The Missing Male Victim' *Public Interest Law Reporter* 18.3 (2013) 207–214 at 211; TIP (2014) 6.

regards to anti-trafficking, a clearly abolition-motivated approach.²¹⁵ The focus of the US American anti-trafficking agenda lies on combatting the sexual exploitation of women and children. In situations involving prostitution, the arrest-to-assist model is predominant. A major drawback of this is that the protection comes in form of imprisonment and at a time when the exploitation has already taken place²¹⁶. What this makes visible is that instead of empowering sex workers, the aim is to criminalise prostitution. Assisting functions as a justification for arresting.

2.6.2.3 With Regards to Technology

However, most instruments are kept rather broad and largely remain silent on the issue of technology. Although the link to human trafficking has gained attention on the international agenda, it has not yet been integrated in the main treaties. Particularly the use of new technologies in counter-trafficking requires regulation in order to guarantee a legal and careful handling of sensitive data.

The CoE Convention on Cybercrime was adopted in 2001 and entered into force in 2004. It targets computer system facilitated crimes and those crimes that harm computer systems. Online child pornography is addressed, but there is no further regulation on internet content promoting the exploitation of trafficked persons. Nor does the convention mention internet technology that facilitates trafficking. Another multilateral treaty, which could be expected to mention technology, is the ILO Convention 29 on Forced Labour from 1930 plus the June 2014 Protocol thereto. Both texts ignore a technological impact on forced labour. Neither does the ILO Domestic Workers Convention from 2011 address the topic. As set out above, technology is not a matter of focus in the Trafficking protocol either. But it can be found at a few points in the UNTOC. The foreword thereto states, that

criminal groups have wasted no time in embracing today's globalized economy and the sophisticated technology that goes with it. But our efforts to combat them have remained up to now very fragmented and our weapons almost obsolete.²¹⁷

215 Thakor M & Boyd D (2013) 283.

216 Musto J 'The Limits and Possibilities of Data-Driven Antitrafficking Efforts' *Georgia State University Law Review* 36.4 (2020) 1147–1172 at 1154.

217 Annan K A, Secretary General (2004) foreword to the UNTOC at iv.

As this statement appreciates the changes brought by a social evolution, it highlights the need for adaptation to technological advancement. However, being mentioned in the foreword is similar to in the preamble. While showing the will of states parties in that regard, it also reflects the failure to integrate the issue in the binding text of the treaty. Article 24 UNCTOC calls states to guarantee the safety of witnesses in criminal proceedings. In order to prevent retaliation or intimidation in testimony situations, paragraph 1 subparagraph b advises the use of communication technologies. As the provisions of the Convention apply mutatis mutandis to the supplementing Trafficking Protocol, they are applicable to trafficking cases. This is one potential use of new technologies, such as video communication, with regards to the protection aspect of counter-trafficking. The partnership aspect is addressed in article 27 paragraph 3 UNCTOC, where law enforcement cooperation among states parties is advocated 'to respond to transnational organized crime committed through the use of modern technology'²¹⁸. Yet, the term 'modern technology' is not defined in the convention, nor can one find any examples on how cooperation shall be designed. Finally, the use of technology in the investigation phase is addressed in article 29 UNCTOC, which is titled 'Training and Technical Assistance'²¹⁹.

Subparagraphs g and h of paragraph 1 mention new law enforcement equipment and methods using modern technology. The broad text leaves space for interpretation due to the differences in technological advancement in the member states. While one state might have a sophisticated modern technology system in place for combating organised crime, in another the resources are lacking to build such a system. Challenges can also include a lack of know-how or privacy concerns. In order for a high ratification rate, potential member states need to be able to implement all the provisions of the convention, hence the broad average. No other international legal instrument deals with the intersection of technology and human trafficking. This leaves the definitional framework to domestic jurisdictions, some of which have found ways to regulate the use of technology in counter trafficking.

218 UNODC (2004) 30.

219 UNODC (2004) 31.

In the United Kingdom, a recently published study highlights that legislation can lure societies in a 'false sense of security'²²⁰. Regarding the intersection of crime control, privacy and data protection, legislation only covers measures for criminal proceedings, while no guidelines have been developed on the use of technologies in the investigation phase.²²¹ Legislation in this regard include the OECD Guidelines Governing the Protection of Privacy and Trans-border Flows of Personal Data (1980); the Council of Europe's Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data 108 (1981); the Council of Europe; and the United Nations Guidelines Concerning Computerized Personal Data Files (1990). The reformed EU Directive on Data Protection introduces new principles of transparency and accountability including novel reforms for the consent of individuals as well as the right to be forgotten and the right to data portability.

2.6.3 Wrapping up

The Problem inherent to internationally standardised approaches is the agreement on common definitions and obligations. A treaty's ratification rate regularly depends on the complexity of the subject matter in question.²²² Finding a consensus is especially challenging when it is sought for morally charged issues, such as the legality of prostitution; the maximum age for child pornography; the legality of entrapment as an investigation technique; the requirements for consent; criminal liability; or procedural police powers. The tension between the consistent prosecution – or affirming a global understanding of human dignity – on one side and recognising individual cultural and socio-economic features of national states – or pluralism – on the other must be balanced. Notwithstanding state sovereignty, a least minimum of effective international standards is necessary.²²³ Despite a rise in human trafficking cases²²⁴, and whilst the Trafficking Protocol is widely implemented (national legal frameworks correspond to international law), local law enforcement agencies still fail

220 CSJ & Justice & Care 'It Still Can Happen Here: Fighting UK Slavery in the 2020s Contents' (2020) 6.

221 Gerry F et al (2016) 206.

222 Council of Europe (2001) Explanatory Report ETS 185 to the Convention on Cybercrime.

223 Council of Europe (2002) Group of Specialists on the Impact of the Use of New Information Technologies on Trafficking Inn Human Beings for the Purpose of Sexual Exploitation (EG-S-NT) Final Report, Strasbourg at 62.

224 Foot K & Vanek J (2012) 1; Obertová Z & Cattaneo C (2018) 47.

to sufficiently recognise and prosecute the crime, leading to an impunity gap for trafficking victims.²²⁵

[W]hen exploitation has been framed as a rights violation, state responses have been modest and episodic. But when framed as a component of transnational criminal activity, the response has been swift and more or less global.²²⁶

The principle of subsidiarity in international law, which safeguards a degree of independence for national states, can be of help when the aim is to counterbalance the above-mentioned tension. With divergent jurisdictions, the geographical location of a perpetrator or a server can neutralise the law. Furthermore, the lack of reliable research hampers concrete legislation and international criminal jurisprudence.

2.7 INTERMIN FINDING

The review of public and private action this section reflects the previously identified problems. With unclear definitions a concerted approach is not agreed on – ergo the lowest common denominator is a vague framework with non-measurable effects. The industry's modus operandi often deviates from the realities of victims. In addition, some approaches are not financially independent and rely on private sector funding. Worker-driven approaches are emerging alternatives.

This chapter has explained the phenomenon of human trafficking, which is comprised of the three elements: act, mean, and purpose. The stages of involvement and accountability were shown. The various lenses through which human trafficking is understood indicate a multi-faceted problem. Only an intersectional approach can sufficiently combat the crime. A limitation to one area of law or sector can have counterproductive effects. Instead, a constructive dialogue about and among the divergent understandings within the anti-trafficking arena could facilitate sustainable change. The challenge is to unite the various stakeholders.²²⁷ Creating a powerful international response requires common objectives and overcoming the challenges posed by legal, cultural, political, and ethical contrasts. Aside from international jurisdiction this can be achieved through community-based attempts, self-regulatory

225 OSCE (2020) 'Prosecute human traffickers and deliver justice to victims' *OSCE Alliance Conference against Trafficking in Persons*, Vienna <https://www.osce.org/cthb/457702> (visited 5 January 2021).

226 Simmons B et al (2018) 250.

227 Sharapov K (2014) 2.

boards, and awareness campaigns. Sustainable counter-measures combine long-term preventive measures to fight the root causes of trafficking with ad-hoc responses to help the currently affected. After all, their benefit should be the underlying purpose of all efforts. Less focus on economic growth and border security could be a step in the right direction.

After having set the framework around human trafficking, the following chapter will add new technologies. Whether this aspect poses more challenges on the already difficult problem or can help solving it, will be matter of discussion.



3 Chapter Three: A Transformation through New Technologies?

3.1 INTRODUCTION

This chapter introduces the impact that technology might have had on trafficking. An emphasis is made on the fact that technology has intentionally not been mentioned as a cause for trafficking. In the absence of credible research data, technology could merely be categorised as a contributing factor. This will be dealt with later in further detail, in order to now focus on contextualising technology within the human trafficking framework. The term technology in this work generally refers to information and communication technologies (ICTs). New technologies in specific shall mean those ICTs that constitute networked and digital environments in which information are exchanged.²²⁸

There is a regulation gap of global scale regarding the link between human trafficking and technology. Crimes committed online are not exhaustively covered by penal codes. In addition, the border-crossing character of the internet makes establishing a correspondent legislation a global challenge. In the absence of 'reliable statistics on the magnitude of trafficking'²²⁹, political will towards legislative reforms is scarce. The lack of data leads governments and international bodies to base their decisions on what can 'only be described as guesswork'²³⁰. The clandestine nature of human trafficking combined with the unexplored potential of new technologies suggest that most of the statistics are inaccurate or even false. However, research outputs can draw the required attention. In order to receive funding and inspire change, the shocking effect of high numbers should not be underestimated. I share the view of many critics, who in the absence of data advice not to leap to conclusions. After all, the trafficking-technology nexus constitutes a popular scholarly topic for a variety of disciplines. Beyond that, it has been discussed on the international agenda by multilateral organisations.²³¹

228 Latonero M et al (2012) 9.

229 Weitzer (2007) 455.

230 Weitzer (2007) 455.

231 UN.GIFT (2008) 'The Vienna Forum to fight Human Trafficking' B.P.:017; Europol (2014) 'Trafficking in Human Beings and the Internet' Intelligence Notification 15/2014; OSCE (2020).

At present, cybercrime is a novelty for policy makers and practitioners. The prevailing view in the anti-trafficking discourse is that technological advancement has had a facilitating impact on human trafficking and the current legal system is not fit to deal with that.²³² The opposite position is critical towards further regulation and holds that it would intervene with the freedom of expression or entail an inappropriate intrusion into individual privacy matters.²³³ At this point, moral concepts clash and the discussions surrounding the matter of this work begin.

3.2 THE CLAIM: TECHNOLOGY AS A CRIME FACILITATOR

As can be seen in everyday life, technological advancement has brought new ways of communication, which enabled the world to be interconnected. People's use of online technologies has increased.²³⁴ As a side-effect to the manifold benefits that have simplified daily life, 'a darker narrative has also emerged'²³⁵. Some argue that new technologies have facilitated transnational organised crime in general, and human trafficking in specific.²³⁶ Through new communication channels and easy access to online markets, the trafficking processes is assumed to be simplified. Perpetrators would take advantage of the newest technologies and are constantly one step ahead of law enforcement agencies.²³⁷

Another assumption is that digital technologies transformed human trafficking into a transnational organised crime.²³⁸ Both the internet and criminal behaviour transcend national borders. Legal systems must be fit to deal with these dynamics. As mentioned above, the growing use of ICTs is often linked to expanded capacities for traffickers.

232 Hughes (2001) 33.

233 Mendel J & Sharapov K (2016) 675.

234 For Internet Usage Statistics refer to <https://www.internetworldstats.com/stats.htm> (visited 27 July 2020).

235 Latonero M, Bernahe G et al *Human Trafficking Online: The Role of Social Networking Sites and Online Classifieds* USC Annenberg School for Communication & Journalism: Center on Communication Leadership & Policy (2011) iv.

236 Hughes (2001) 14.

237 Dixon HBJ 'Human Trafficking and the Internet (and Other Technologies, Too)' *Judges Journal* 1 (2013) 38.

238 Iroanya R (2014) 103.

It has further been stated, that new technologies have replaced traditional trafficking schemes and methods. However, assumptions like these tend to be verified by only a few cases. The clandestine nature of human trafficking suggests a high dark figure. This is why the interpretation of trafficking-related data requires caution. Knowledge and reliable information are crucial for evidence-based policy.²³⁹

3.3 THE EVALUATION: PART OF THE PROBLEM

In the following, the extent to which new technologies have actually facilitated the crime is explored. The aim here is not to categorically debunk what has been stated above, but rather to unpack assumptions, which could otherwise lead to false responses. Although similarly difficult to verify, certain aspects of the information gathered so far can be critically assessed in order to contradict some of the claims. The hereby added perspective will also be of importance to the main discussion of this study, which queries technology's potential in counter-trafficking. It is crucial for a progressive approach to understand technology as multi-dimensional.

3.3.1 Game Changer

The first assumption is that traffickers exploit initially neutral technologies for trafficking and therefore technology has brought significant changes to the character of the crime. The claim contains two aspects: One being the ability of traffickers to misuse technologies that were not initially designed to assist criminal activity. Consequently, criminals would always be one step ahead of law enforcement. The claim presupposes that every trafficker is tech-savvy while at the same time no police officer knows how to operate a smart phone. In order to shed light on this debate, a significant amount of research has been dedicated to technology-facilitated trafficking in recent years.²⁴⁰ In essence, it suggests that technologies such as online classified advertisement sites, social media, and mobile phones are harnessed by traffickers at various phases of the trafficking process. The recruitment of victims via the internet is only one example. The possibility to approach a target online potentially enables traffickers to recruit more victims in less time and by using less resources.

239 Fedotov J (executive director of UNODC at the time) *Crime Commission to address protection of children from exploitation on the Web* (April 11th 2011) available at <https://www.unodc.org/unodc/en/frontpage/2011/April/crime-commission-to-address-the-protection-of-children-from-exploitation-on-the-web.html> (visited 4 July 2020).

240 Geldenhuys K 'Human Trafficking: A Click Away' *Servamus* (2018); Kunze E (2010); Latonereo M et al (2011; 2012; 2015).

There are reported cases of offenders, who made the initial contact through social media platforms like Facebook²⁴¹ or used online classified websites to market and sell their victims. Online advertisements of work abroad have also lured job seekers into contacting unverified recruiters that are part of trafficking schemes. Another stage, at which new technologies come in handy, is the threat and control. Through digital communication and location tracking, a tech-savvy perpetrator can exercise constant power over a victim without having to be present, controlling every movement. In general, the exploited technology is not very advanced. Only the use of social media and mobile phones can be transparently retraced on a broad scale. A supposedly small group of offenders use more sophisticated technologies like embedded images and encryption.²⁴²

Another feature of the crime are financial transactions. The developing trend of payment via email money transfers or crypto currencies simplifies the flow of not only licit transactions. Concurrently, technological payment methods potentially enable the monitoring of suspicious transactions.²⁴³ When investigating economic crimes such as money laundering, to which human trafficking constitutes a predicate offence, it is critical to follow the money. Where large organised crime networks are involved, there is usually no easy trace and layering techniques are applied in order to disguise the illicit origin of the money. Several (simple) technological advancements facilitate this step, such as credit card payments and cash dispensers.²⁴⁴ In sum, when leveraged in the right way technology can help to create distance between the crime and the criminal. Regarding the second aspect of the claim however, a character changing impact is rather an emphasis for this development. By no means have traditional channels been broken off and interchanged with new methods.²⁴⁵ The core of the crime remains in the exploitation.

241 Barney D 'Trafficking Technology: A Look at Different Approaches to Ending Technology-Facilitated Human Trafficking' *Pepperdine Law Review* 45.4 (2018) 747-784 at 761.

242 Wolak J (2012) 'The Role of Technology in Human Trafficking' at the *Microsoft Research Faculty Summit* available at <https://www.microsoft.com/en-us/research/video/the-role-of-technology-in-human-trafficking/> (visited 9 July 2020).

243 Todorof M 'FinTech on the Dark Web: the rise of cryptos' *ERA Forum* (2019) 2.3.

244 Europol 'Trafficking in Human Beings and the Internet' (2014) 2.

245 Muskat-Gorska Z (2011) 9.

Usually when a new technology is introduced into a system of exploitation it enables those with power to intensify the harm and expand the exploitation.²⁴⁶

Not only traffickers are capable of misusing technology. Both the employer and the consumer can search the variety of human products online. Some trafficking schemes operate exclusively on online platforms. At the same time, victims and workers at risk have the chance to connect through apps and messaging, building safety and information networks. As this aspect belongs to the crime-obstructing potential of technologies, it will be dealt with in further detail below. While anonymity made the internet a favoured channel in the trafficking trade, every transaction does leave a trace. These traces can be valuable for criminal investigations.

This leads to another aspect of the assumption and a common critique in the scholarly discourse: that law enforcement agencies are unfit to deal with modern trafficking cases. Having to enforce anti-trafficking laws, part of their task is to adapt to new criminal methods and schemes. In order to learn and react appropriately, 'having more technical tools at their disposal to pursue investigations'²⁴⁷ is important for some agencies. But process innovation in state-led authorities is cumbersome and requires expert knowledge. Having said that, a lack of resources or training could be mended through inter-sectoral cooperation.

3.3.2 Across Borders

Part of the discussion is further that the internet transcends borders and therefor enables the crime to do the same. Yet, human trafficking is not a problem solely concerning low-income countries. Instead, it happens on a global scale. The point of this approach is not that online technologies enabled the crime to cross national borders. The history of the crime's border-crossing character has been outlined above. What this theory rather attempts to highlight are the crime networks, which have benefitted from the development of the web and ICTs.²⁴⁸ The possibilities to connect and exchange information instantly allowed criminal networks to grow without losing connection. Some crime rings are assumed to span across continents. Borders seem to play less of a role in the globalised and digitalised world.

246 Hughes (2000) 36.

247 Musto J (2020) 1157.

248 Kunze E (2010) 252.

The experiences of the current moment enhance that perception, when conferences and meetings are held via the web and instantly connect people across the globe. While the question of a borderless internet and crime scenes detached from tangible space play a big role in the discussions around cybercrime, human trafficking is very much geography-related with a remaining focus on physical location.²⁴⁹ This applies also to domestic trafficking situations, where rural and disadvantaged areas of origin contrast with large consumerist destination cities. With new technologies in organised crime groups, the concept of borders is challenged in a new way. However, it is not dissolved and will remain to play a critical role.²⁵⁰ A global perspective tends to draw attention away from regional deficiencies.

3.3.3 Fast Spread

Human trafficking is among the fastest spreading illicit trades.²⁵¹ Some trace the unprecedented growth back to the integration of new technologies. As stated above, it is impossible to determine the exact impact. What the internet undeniably brought, is a faster and more diverse, while at the same time customised, access to pornographic content²⁵² and sexual services. The heightened visibility leads some to assume higher crime rates. The inherent problem is the assumed link to criminal behaviour.

The content does not invariably involve victims of human trafficking or other crimes and might have instead resulted from consensual sex work. Whether this consent is biased by systemic power imbalances and gender-based discrimination is another matter. Most of the attention on sex-related online content is a result of the panic that has evolved around trafficking as a threat to national security – a panic inherent to industrialised countries in Europe and Northern America. Suddenly, everything is framed as trafficking-related, although the spread of trafficking through online media remains an assumption that is not backed up by the respective case data.

249 Graham M 'Geography/internet: Ethereal alternate dimensions of cyberspace or grounded augmented realities?' *Geographical Journal* 2 (2013)177-182 at 179.

250 Mendel J & Shrapov K (2016) 677.

251 Shelley (2010) 138.

252 Hughes (2001) 24.

Taking a step away from the internet as such, other technological innovations offer new approaches and to a certain extent replace the objectification of human beings. Internet of Things (IoT)-connected sex toys are one example of tools that are already used by sex workers in the safety of their own home. There are people worldwide doing live webcam-shows for a living, digitally moving in a grey zone between prostitution, pornography, and striptease. Virtual reality pornography and sex robots are in the development phase.²⁵³ Although unlikely to replace real human intimacy, these gadgets are seen to foster a safer work environment for sex workers. The risk for misuse by traffickers and other perpetrators is low. They can be helpful tools for people who choose to involve in self-determined sex work, including former victims of trafficking. Statistics show that survivors are likely to re-involve in sex work – especially when they had to face incarceration in consequence of prostitution law violations.²⁵⁴ However, not every sex worker has access to these technologies or even the comfort of an own home. It is therefore unlikely that the innovations help the majority of persons who are currently victimised by trafficking or pimped. Quite the contrary, technological innovations that drive the market and nourish the sex industry can in turn have an impelling impact on human trafficking for sexual exploitation. As stated above, it is a demand-generated industry.

There are problematic aspects about IoT-gadgets and sex-robots. Being connected to the internet, they run the risk of being hacked and of releasing sensitive private data. Being able to do anything with a human-like object does not raise awareness for misogynistic behaviour in general and fight sexual violence in particular. As the overall acceptance of these attitudes in virtual spheres justifies their normality, the risk of sexual and gender-based violence in reality might increase. The reinforced consensus, that the most pressing problem within the trafficking sphere is the sexual exploitation of women and children, draws crucial attention away from forms of exploitation involving queer and male persons as well as labour and migration situations.²⁵⁵

253 Opray M (2017) ‘Robots May Change the Sex Industry but could they Replace Intimacy?’ in *The Guardian News* of Wed 5 Apr 2017 <https://www.theguardian.com/sustainable-business/2017/apr/05/robots-may-change-the-sex-industry-but-could-they-replace-intimacy> (visited 28 July 2020).

254 Jaleel (2016) 582.

255 Musto J (2020) 1153.

3.4 INTERIM FINDING

The focus on technology-facilitated trafficking is disproportionate. Investigated trafficking schemes are shown to involve rather simple technologies, while a sophisticated use of new and complicated methods remains the exception. In a nutshell, a technological evolution, that is irregular to any other criminal or non-criminal behavioural process, is hardly the case. The unbroken focus on this topic seems like an excuse for not leading a more successful conversation about and fight against trafficking. Hence, the involved stakeholders would be well advised to not demonise technological advancement per se. Some actors are slowly coming to terms with the fact that it does not help to wish technology away.²⁵⁶

A revision of the trafficking characteristics in the light of technological developments becomes necessary. At first, the definition of human trafficking requires an update with regards to technology-facilitated forms such as cyber-crime and internet-trafficking. Only a few jurisdictions have undergone respective reforms.²⁵⁷ And while most regulations allow for a respectively wide interpretation of the actus reus, it would be an important and progressive sign to textually include the modern forms. Secondly, a technological perspective could supplement the framing of human trafficking. According to some of the voices listed above, the whole phenomenon could be framed as a technological issue, including both its facilitating and its obstructing form. Another potential adjustment pertains to the involved persons. If digital and online technologies can complete jobs fast and efficient, less manpower might be required to find, persuade, transport, and constrain victims within large trafficking schemes. Only two aspects of the crime are not likely to change with technology. Neither the elements of the crime nor the root causes have been affected by a technological evolution. Because these are core aspects of human trafficking, it is worth querying the enthusiasm for a purely technology-inspired response.

256 Obertová Zuzana & Cattaneo C (2018) 49.

257 See e.g. the controversial U.S. Senate and House bills FOSTA-CESTA (2018).

4 Chapter Four: Technology in Counter-Trafficking

4.1 INTRODUCTION

In the sense of the above definition and considering the reviewed state of the art in research and literature, new technologies are framed both as part of the problem and as part of the solution. In order to fully understand and use their potential for the anti-trafficking network, a comprehensive assessment of the concomitant risks is required. In this chapter, a brief evaluation of the common claims around technology in counter-trafficking will be followed by an analysis of the tools in use. This will lead to challenging the hopes surrounding the topic and exploring whether actual benefits outweigh the predicted harms.

Privacy and data protection will play important roles in the following. For the purpose of this study, the term data is used in its most simple form, meaning facts and statistics collected for reference and analysis. This includes the different kinds (content, telecommunication and transaction) as well as various forms of data.

The term privacy is rather complicated, as a universal definition thereto does not exist. It is characterised by individuality and unclear boundaries. Violations are often assumed, when in fact other legally protected interests are affected.²⁵⁸ An outline of the scholarly discourse on the right to privacy and its alteration through technological progress would go beyond the scope of this thesis. From a juridical perspective, the right to privacy has found its way into most constitutions as a vital element of legal traditions. A number of international human rights frameworks protect a right to privacy, but do not attempt a definition.²⁵⁹ Guidelines can be found at EU level. Article 8 of the European Convention on Human Rights (ECHR) protects the 'the individual against arbitrary interference by the public authorities'²⁶⁰. Further

258 Gavison R 'Privacy and the Limits of Law' *The Yale Law Journal* 893 (1980) 421-471 at 422.

259 Universal Declaration of Human Rights (1948) Art 12; International Convention on Civil and Political Rights (1966) Art 17; International Convention on the Protection of All Migrant Workers and Members of Their Families (1990) Art 14; Convention on the Rights of the Child (1989) Art 16.

260 ECHR (1968) Belgian Linguistic Case 'relating to certain aspects of the laws on the use of languages in education in Belgium' (Merits) published in Series A no. 6 at 7; see also ECHR

recognised by jurisprudence is the protection of the individual against broadcasting of personal information²⁶¹ and other integrity violations including by private actors.

While privacy and its protection contain the individual per se, data protection evolves around personal information. Hence, its regulation is based on specific instances of data processing and follows key principles, such as purpose limitation²⁶² and consent. These principles are reflected in international legal frameworks.²⁶³ The concept of data protection is recognised both as a part of privacy and as a separate construct, such as in the European Data Protection Directive. Applying both to the public and the private sectors, the EU directive also defines requirements for the processing of personal data.²⁶⁴

4.2 THE CLAIM: TECHNOLOGY AS A CRIME OBSTRUCTOR

As technology is exploited to foster human trafficking, the idea of using it against the crime arises. Digitalisation is both a threat and a source of hope. Scholars²⁶⁵ and international organisations²⁶⁶ have been advocating the use of new technologies in the fight against human trafficking for almost a decade. Ideas evolve around technology training for law enforcement officers²⁶⁷ and digitalisation of agencies, (big) data collection, (mass) surveillance, geo tracking, the recruitment of hackers and tech-savvy people at law enforcement agencies in order to cover internet-facilitated crime or use modern investigation techniques. At the prevention level, technological tools are implemented to identify risk areas and factors. The ongoing exploration of the role of social media in this context shows a twofold development. While being abused to facilitate trafficking, it can provide counter-trafficking platforms and community support. Plus, traditional advertisement platforms

(1979) *Marckx v Belgium* at 31.

261 ECHR (2003) *Peck v United Kingdom* 36 E.H.R.R. 41 at 57.

262 Gerry F et al (2016) 208.

263 OECD Guidelines Governing the Protection of Privacy and Transborder Flows of Personal Data (1980); UN Guidelines Concerning Computerized Personal Data Files (1990).

264 Wijers M (2013) 3.

265 Welch SA 'Human Trafficking and Terrorism: Utilizing National Security Resources to Prevent Human Trafficking in the Islamic State' *Duke Journal of Gender Law & Policy* 24 (2017), 165–88; McAlister R 'Web scraping as an Investigation Tool to Identify Potential Human Trafficking Operations in Romania' *ACM Web Science Conference* (2015).

266 Council of Europe 'Monitoring Mechanism - Convention on Action against Trafficking in Human Beings', 2014; UN.GIFT *Workshop: Technology and Human Trafficking* (Vienna, 2008).

267 Musto J & Boyd D (2014) 10.

are used in undercover investigations. International funding has been prompted to the development of apps based on crowdsourcing and data mining. Reporting hotlines, which have been used to identify victims for decades, are technically upgraded.

Some of these methods can make ordinary citizens to rescuers and are seen to expand the coverage of the police. Other apps and services are designed to be used by victims and people at risk. There are online review-platforms for workers offering evaluated information on various employers. Social networks are used to connect and empower workers and communities in order to raise awareness for trafficking situations. Surveillance technology is deployed in all sorts of contexts. Some jurisdictions allow surveillance mechanisms for the identification of victims, while it usually serves criminal prosecution in identifying and observing the suspect. There has been a global rise in facial recognition technology.²⁶⁸

New technologies seem to have found their way into counter-trafficking. They appear both evil and good. But this would be a simplification of a complex problem. As on the crime-facilitating side, assumptions on the crime-disrupting side flourish in the scholarly discourse. The same argument that saw technology replacing *offline* trafficking methods is applied to traditional strategies in counter-trafficking. Some criticise the cumbersome methods²⁶⁹, which could easily be replaced with new technologies. They demand to enhance the current technological state of counter-trafficking. Another hypothesis holds that a technological response invariably benefits the victims, offering instant help. This thought is stems from a viewpoint referred to as tech-solutionism.²⁷⁰ Technological interventions are assumed to offer a quick-fix, which is associated with expectations of greater solutions.

As will be seen throughout this chapter, hopes surrounding technological-driven counter-trafficking measures are high. A common (mis-)understanding is that by only exploiting the same technologies as traffickers, investigation and prosecution would be improved. Other ambitions concern the cooperation aspect of anti-

268 Milivojevic, Moore & Segrave (2020) 22.

269 Buono L 'The genesis of the European Union's new proposed legal instrument(s) on e-evidence: Towards the EU Production and Preservation Orders' ERA Forum (2019) 310.

270 Musto J, Thakor M & Gerasimov B (2020) 6.

trafficking. Both inter-, intra-, and transnational as well as inter-institutional coordination and communication are assumed to benefit from technological advancements. Similar anticipations appear in the research sphere, hoping for optimisation through new methods.

Moving on, the question is whether technology can be transformed from a liability into an asset. It is a wide-spread idea in academia and policy that technology must only be leveraged to assist anti-trafficking efforts. Resources and energy are funnelled to explore the possibilities of Artificial Intelligence (AI), dark web search tools, facial recognition et cetera. As human trafficking for sexual or labour exploitation are the most detected kinds of trafficking, technology tools are primarily developed to prevent, report and combat these kinds of trafficking.²⁷¹

4.2.1 Instant Benefit

It is often assumed that victims benefit as a direct result of introducing new tools and methods to existing counter-trafficking systems. This is a desirable maxim, provided it not only serve to justify enhanced exercise of power. Advocated in a moralising and gendered manner, the rescue of ‘innocent victims’ at any price almost becomes a ‘moral crusade’²⁷². Some questionable anti-trafficking action is grounded on humanitarian reasons, including blanket surveillance methods and ‘border hardening practices’²⁷³. Other nuanced technologies are harnessed for risk assessment. The University of Nottingham Rights Lab is working with AI and satellite imagery to detect “modern slavery” from space. The project successfully identified high-risk sites and industries for labour exploitation.²⁷⁴

However, identification does not guarantee remedy.²⁷⁵ What can be at stake in the end is the affected person’s own agency and free movement, while the actual beneficiaries turn out to be countries with strict border policies and an evolving rescue industry. Especially the power over sensitive data of vulnerable populations is

271 OSCE (2020) 23.

272 Weitzer (2007) 447.

273 Milivojevic, Moore & Segrave (2020) 27.

274 University of Nottingham (2017) for more information on the project see <https://www.nottingham.ac.uk/connectonline/research/2017/fighting-slavery-from-space.aspx> (visited 6 November 2020).

275 Milivojevic, Moore & Segrave (2020) 28.

a serious concern. Whether a tool effectively identifies labour abuses depends largely on its purpose. As big businesses often rely on tools that were primarily made to comply with risk mitigation and due diligence requirements, labour rights violations in supply chains often go undetected.²⁷⁶ Whereas remediation-oriented approaches aim 'to expose the broad reality and complexity of labour risks and abuses related to exploitative recruitment, forced labour, and human trafficking'²⁷⁷. NGO and worker-based approaches are more likely to result in direct impacts on people's lives because their funds are often bound to this specific cause.

Private businesses on the other hand usually depend on external compliance firms and data management operators to fulfil certain due diligence standards and/or identify human trafficking factors. Since personal data has evolved into a currency, there is a lack of confidence in the credibility of some private sector anti-trafficking action. Hence, worker-driven tools such as the Fair Food Program gain trust and significance. Tools are usually used by another actor as the developer and yet another can be the beneficiary. A tangible example would be an investigation technology developed by a private tech-company, used by law enforcement to benefit victims. The above-mentioned OSCE study found that 'victims and potential victims account for almost half of the total beneficiaries'²⁷⁸ of the examined tools, while victims and potential victims together make up for 24 per cent of the target users. This reflects the contemporary mode of tools and initiatives focussing on the victims. However, tools that immediately support victims are still rare.²⁷⁹

An important aspect to keep in mind is an efficient impact assessment when technology is used to disrupt trafficking. Most modern interventions consider the potential harm to the privacy of both (potential) victims and an undetermined mass of uninvolved persons. However, these concerns are outweighed by the cause of the greater good. Problems arise when that greater good is in fact not achieved. Then the failed protection of a few justified the violation of the legal interests of many.

276 Rende Taylor L & Shih E 'Worker Feedback Technologies and Combatting Modern Slavery in Global Supply Chains: Examining the Effectiveness of Remediation-Oriented and Due-Diligence-Oriented Technologies in Identifying and Addressing Forced Labour and Human Trafficking' *Journal of the British Academy* 7 (2019) 131–165 at 148.

277 Rende Taylor L & Shih E (2019) 147.

278 OSCE (2020) 25.

279 OSCE (2020) 25.

4.2.2 Digital Evidence

The emerging consensus suggests that the current technological state of counter-trafficking is insufficient. Mirroring the assumption that trafficking has undergone a technological evolution, law enforcement agencies are called to keep up. Easy-fix suggestions include using the same technologies as traffickers and digital evidence is seen to make more and more cases. In fact, law enforcement agencies have already enhanced their technological outset. Information such as GPS patterns, phone data, and financial transactions often play a key role in investigations. As digital information can provide crucial evidence, police officers have referred to it as an 'evidentiary goldmine'²⁸⁰. As crime gains facets through technology, law enforcement also improvises creative responses. Network activity can be uncovered through decoding phone numbers and analysing group behaviour. The movement in packs can be detected through mapping technologies and may lead to cases. With regards to online investigation, innovations such as age recognition software and Photo DNA have facilitated a more comprehensive understanding of criminal behaviour.

Over all, the technological use of law enforcement and investigations are noticeably more sophisticated as opposed to the rather low-tech approaches developed for the use by victims and at-risk groups.²⁸¹ This justifies the call for higher technological literacy in law enforcement agencies. The allocation of resources and the responsible handling of data require know-how and training. Cases all over the world show that sensitive data is too often skimmed on insufficient grounds. An example are phone searches at the borders of both Australia and Thailand, where 'too little is an indicator of potential victimisation, and too much agency is an indicator of potentially working in breach of visa conditions'²⁸².

The dangers of digital evidence include false positives and subsequent incrimination. The elimination of hoaxes is a trend topic in the research area of machine learning technologies. The above-mentioned diffusion of the global legal landscape poses an additional problem. Due to the national discrepancies, for

280 Musto J (2020) 1158.

281 OSCE (2020) 36.

282 Ham J, Seagrave M & Pickering S 'In the Eyes of the Beholder: Border Enforcement, Suspect Travellers and Trafficking Victims' *Anti-Trafficking Review* (2013) 51–67 at 57.

example in the criminalisation of sex work, the same technology can lead to multiple outcomes in different national contexts. Where investigations suspect forced prostitution (e.g. suspicious language in smartphone communication), some jurisdictions allow for the arrest of the prostituted person. In other contexts, this data is used to approach and support the supposed victims. Having said that, recent media articles show an initiating trend – even in the US – suggesting that the most progressive law enforcement agencies forgo the prosecution of prostituted persons and instead offer assistance and service to them.²⁸³ Crime statistics substantiate the claim of less prostitution arrests at the example of New York.²⁸⁴ What becomes visible is an agenda that assumes the persons involved – trafficked or not – have made decisions due to a lack of alternatives. As an attempt to justify the blanket surveillance, this approach acknowledges that not every person who is found to sell sex online has been a victim to human trafficking. However, by taking advantage of mass surveillance, law enforcement agencies increase the risk of affecting uninvolved third parties. In their work, some investigators use AI to trap customers into a chat and eventually scare them away with a police department warning, including with a threat of subpoena based on the illegal purchase of sex. A responsibly designed AI leaves no trace to the internet user, who has not committed any criminal offence yet.

4.2.3 Better Data

Apart from on the investigation and prosecution level, data collection is assumed to play a key role in crime prevention and for policy in general. The lack of data is criticised in almost any publication on human trafficking and has consequently been stressed on many levels in this work. It is often argued, that without knowing exactly what to fight it is impossible to fight it effectively. In fact, modern technologies play a key role in the improvement of trafficking data. Through technological progress, servers are now able to collect, analyse and save an unprecedented mass of information in almost no time. While research quantity is significantly higher, the

283 Rosenberg T (2019) ‘A.I. Joins the Campaign Against Sex Trafficking’ *The New York Times* 9 April 2019 available at [https://www.nytimes.com/2019/04/09/opinion/ai-joins-the-campaign-against-sex-trafficking.html%20\[https://perma.cc/7223-D33P\]](https://www.nytimes.com/2019/04/09/opinion/ai-joins-the-campaign-against-sex-trafficking.html%20[https://perma.cc/7223-D33P]) (visited 30 July 2020).

284 McKinley J (2019) ‘Bills to Decriminalize Prostitution Are Introduced. Is New York Ready?’ *The New York Times* 11 June 2019 available at <https://www.nytimes.com/2019/06/11/nyregion/prostitution-legal-ny.html> (visited 30 July 2020).

quality of the statistics and outcomes is difficult to assess. AI is used to determine more accurate figures of past trafficking cases and to facilitate their analysis in order to detect future risks. In theory, this should lead to a comprehensive risk mitigation. Yet, policy action is seldom as fast as technological advancement. In the best case, that is due to a careful consideration of potential human rights violations. Hasty (state) action has the power to cause more harm than benefit. This is arguably the case for state-led mass surveillance technologies.

An example for innovative research techniques is the recent study by the anti-slavery charity *Justice and Care* in collaboration with the think tank *The Centre for Social Justice*²⁸⁵, which introduced a new method to the ‘anti-slavery measurement toolkit’²⁸⁶. Trafficking data not only inspires policy, it leverages valuable insights for justice and creates a narrative to point into direction of necessary action. By enhancing the visibility of the crime, creating awareness for risk situations and spreading information of and in countries of origin, the role of data should not be underestimated. However, it is important to note that technology cannot overcome the obstacle of concealment. Even if datasets are improving to build a better base for action, the dark figure of trafficking will never be tackled. The narrative that more collected data guarantees a better outcome is outdated. A collect-all approach is not sufficient. Plus, the accessibility of data remains a problem. Hence, I query the benefits of a focus on research tools and methods to come closer and closer to a result that is unreachable instead of channelling the existing funds and creativity into action and direct support for the people at risk.

4.2.4 Enhanced Cooperation

When shared, said data can facilitate the cooperation among state and private actors to combat trafficking, possibly leading to more effective interventions. As the information is often sensitive it requires access limitations, which again can obstruct the potential of data itself. Nobody wants the data collected by state-enforced surveillance tools in the hands of the tech-businesses that designed the tool. Case

285 CSJ (2020).

286 Trodd Z, director of the University of Nottingham Rights Lab (2020) *Thomson Reuters Foundation News* available at https://news.trust.org/item/20200713112335-sg139/?utm_campaign=trafficking&utm_medium=newsletter&utm_source=mainListing&utm_content=link6&utm_contentItemId=20200713112335-sg139 (visited 17 July 2020).

data for preventive reasons can partly be provided with the help of anonymisation. Armed with enhanced data 'many anti-trafficking organizations have also embraced technology to build powerful networks of allies, advocates, and donors'²⁸⁷. As societal awareness for trafficking situations is increasing, more and more stakeholders get involved in the anti-trafficking movement. The private sector is a source of innovation for technology-facilitated anti-trafficking.²⁸⁸

An example for cooperative action is the ethical consumption apps, which have been discussed in the literature review above. Crowd-sourced approaches emerge. Through citizen-reporting tools ordinary people are involved to create a safer world via social media, online petitions, apps and hotlines. Problematic is that non-legitimised, inexperienced people and organisations perform a task, which traditionally belongs to police work. To identify a certain scenario as a human trafficking case requires know-how and training. Consequently, the investigating officials are 'left to navigate through leads of varying quality'²⁸⁹. To learn about and report risk situations, dozens of civil coalitions have formed, again with the help of online technologies.²⁹⁰ Civil society is supposed to overcome the distance of law enforcement, policy makers and national states to the realities of victims. A common problem with multi stakeholder approaches lies in the divergent agendas and different moral crusades to counter-trafficking. State-orchestrated initiatives that are augmented by non-state actors raise questions of accountability and concerns about privacy.²⁹¹ Virtues of public-private partnerships are the technical expertise and financial independence of non-state actors. In contrast, technology is seen as 'a means of generating income and livelihoods for individual entrepreneurs and businesses finding their way into anti-trafficking work'²⁹².

287 Thakor M & Boyd D (2013) 288.

288 Latonero M et al (2012) 16.

289 Foot K & Vanek J 'Toward Constructive Engagement Between Local Law Enforcement and Mobilization and Advocacy Nongovernmental Organizations About Human Trafficking : Recommendations for Law Enforcement Executives' *Law Enforcement Executive Forum* 12.1 (2012) 2.

290 See e.g. Truckers Against Trafficking, information available at <https://truckersagainstrafficking.org> (visited 30 November 2020).

291 Musto J & Boyd D (2014) 12.

292 Limoncelli SA (2020) 44.

The resulting 'anti-trafficking-industry' is criticised for generating profits and creating a market around an urgent issue. More detailed discussions are concerned with aspects such as data manipulation, censorship, propaganda, or digital imperialism. As data has become a currency in modern society, integrating it into anti-trafficking practise holds the risk of reinforcing neoliberal capitalist agendas. Where a range of organisations store, shift and exchange sensitive personal data, the actual owners' interests fade into the background. This leads to the idea that initiatives driven by NGOs, workers and victims feature more ethical solutions. At the same time there is a risk of false or inaccurate information attached. One example is ranking situations, where the results rarely represent the majority of the workers. That is due to the fact that despite guaranteed anonymity, mainly the content workers participate in voluntary employer-rankings.

When thinking multi stake-holder collaboration, the perspective often does not go beyond public-private partnership or increased 'cross-border police cooperation'²⁹³. It is helpful to visualise all the possible actors to effectively implement the findings. International organisations such as the ILO and OECD function as communication tools, mouthpieces and research agencies alike. Giants from the private sector such as Microsoft and Google can use their assets for more than whitewashing, for example with regards to research and education. Evidence-based research provided by scholars of social and computer science can add a socio-technical perspective to the traditional methods of law enforcement agencies. The role of media is enormous in shaping the public perception about human trafficking.²⁹⁴ And lastly, NGOs can provide a link to field and social workers as well as risk groups or (former) victims. A carefully designed networked response can have a powerful and significant impact.²⁹⁵

Additionally, the load of key actors like judges would profit from more evenly distributed responsibilities.²⁹⁶ As long as the necessary protection of the people at risk, including undercover law enforcement agents and platform users, is guaranteed, the use of tools and programs to share important information is appropriate.

293 Wijers M (2013) 4.

294 TIP (2017)33.

295 Thakor M & Boyd D (2013) 288.

296 CoE (2002) 65.

Sufficiency is another prerequisite that makes a necessary measure proportionate to the encroachment on fundamental rights. For the case of online classified advertisement sites (see above) a more proportionate approach than only making technical intermediaries liable would be to 'foster a constructive dialogue between them and the prosecutors'²⁹⁷. Information from these platforms can not only facilitate law enforcement efforts. Other anti-trafficking organisations also base their work on identifying and approaching victims of trafficking through online sites.²⁹⁸

4.2.5 Tech-Solutionism

What is included in most of the above stated, yet worth a separate concluding point is the debate around technology's general potential to disrupt human trafficking.²⁹⁹ By creating new opportunities and mechanisms, certain tools often hold more hope than real effectiveness.³⁰⁰ What some critics refer to as the above-mentioned 'tech-solutionism'³⁰¹, stands for the framing of humanitarian problems as technological ones, suggesting that technology can solve them easily. Although the approaches of tech-entrepreneurs tend to offer easy ad-hoc methods, which might have an instant effect, they are not likely to tackle any root causes of the complex phenomenon. Furthermore, technological interventions can be dangerous if they are not capable of capturing the social context into which they are applied.³⁰²

4.3 THE CHANCES

Having mapped the field of expectations behind technology-facilitated anti-trafficking efforts, this next section will carve out the realistic chances. Most prospects have been identified in the area of law enforcement. As state budgets are limited, technology offers relatively low-cost approaches.³⁰³ The kind of evidence that is required to make a human trafficking case has changed. With the help of scraping and other sophisticated technologies, crucial information can be gathered from the web. A simple example is the Microsoft Photo DNA, where a certain picture can be

297 CoE (2002) 63.

298 Musto J & Boyd D (2014) 7.

299 Thakor M & Boyd D (2013) 286.

300 Agarwal P (2019) 'Can we really spot slavery from space?' *openDemocracy* available at <https://www.opendemocracy.net/en/beyond-trafficking-and-slavery/can-we-really-spot-slavery-space/> (visited 19 August 2020).

301 Musto J, Thakor M & Gerasimov B (2020) 5.

302 Milivojevic, Moore & Segrave (2020) 27.

303 Musto J & Boyd D (2014) 12.

identified out of a mass of pictures. This technology can help to see if an image, previously used in a trafficking context, appears again on the web. This eventually leads to higher success rates for the police. Digital evidence can make a victim's testimony more believable and also build trust through additional background knowledge. Further, witnesses and victims who fear a testimony can be convinced to testify; first because their statement is backed up by reliable evidence and second because online video testimonies are possible. While the actual detention of the suspect does not become redundant, a shift of presence takes place. The cumbersome collection of physical traces is supplemented by the relatively lean collection of telecommunication trails.³⁰⁴

On the prevention level, new technologies can have both individual and general effects. Data analyses, AI, and automated tools facilitate the prediction of future exploitation. A comprehensive risk-assessment can improve the overall understanding of the crime itself, the involved networks and potential routes. ICTs offer opportunities for the support of sex workers in a way that traditional methods do not. When social workers want to reach out to prostituted persons who they see at-risk of being exploited, they can find out their contact details more easily now. Then they send messages to the numbers that are used for online advertisement. The functioning of this method of course presupposes that the person is in possession of the phone and can answer independently from a pimp. If that is the case ICTs depict a powerful tool by avoiding face to face meetings, which are possibly monitored by an exploiter and can be dangerous for the exploited person.

Another preventive aspect is the chance for private sector actors to mitigate the crime risk. Online service and social media providers who 'acknowledge the extent to which their products and services are being misused for human trafficking'³⁰⁵ also have the power to change that. Platform regulation and privacy protection are counter-productive to companies' profit motive. Additional incentives come from an increased public interest in data protection and related issues. By reducing the confidence of consumers moving in an 'anonymous, risk-free arena'³⁰⁶,

304 CoE (2002) EG-S-NT Final Report, 74.

305 Latonero M et al (2012) 38.

306 UN.GIFT (2008) 20.

the internet could become a hostile space – safe for the average consumer but dangerous for organised crime.

As this section has shown, the whole anti-trafficking arena can benefit from optimised research data and modern measurement tools. These are gaining ‘credibility, confidence and the foundations from which to build effective action’³⁰⁷.

4.4 THE CHALLENGES

In order to take advantage of the full scope of the technological opportunities, the inherent challenges will be identified. First of all, it is important to be aware of and avoid the paralysing effect that might come with the implementation of new technologies. The introduction of a new method entices those involved to fall back on insufficient statements. The challenge here is to follow up on each new method and if necessary withdraw from any ineffective attempts. Periodic reviews show whether new methods are a gain and if the tool is well positioned or causes harm instead. Constant questioning of the original aim can help in this regard.

4.4.1 Accessibility

The next challenge for the implementation of a new technological tool is the translation of the software developer’s language into that of potential users.³⁰⁸ The best tool is worth nothing if the user cannot take full advantage of its potential. Easy, inclusive and user-friendly application is key. Network technologies can both include and isolate individuals and should aim at overcoming technological illiteracy. Even though mobile technology is the most adopted and the devices only get smarter with time, not every user can be described as technological literate. Searching for the appropriate and helpful online content requires the respective skillset.³⁰⁹ The awareness that technology can be accessed and experienced in different ways depending on ‘one’s gender, nationality, educational attainment, or skill-level’³¹⁰ is crucial to understand how people are using a technology. Equally important is to

307 University of Nottingham Rights Lab Data and Measurement Programme
<https://www.nottingham.ac.uk/research/beacons-of-excellence/rights-lab/programmes/data/index.aspx> (visited 22 August 2020).

308 Hovy E (2012) at the Microsoft Research Faculty Summit ‘The Role of Technology in Human Trafficking’ available at <https://www.microsoft.com/en-us/research/video/the-role-of-technology-in-human-trafficking/> (visited 9 July 2020).

309 Latonero M et al (2015) iv.

310 Latonero M et al (2015) 8.

overcome myths and assumptions around the libertarian culture of the Internet³¹¹, where online technology is illustrated as uncontrollable. Various actors remain scared of change because they are unfamiliar with technologies. In today's highly digitalised world, a large amount of the adult population is yet computer illiterate.³¹² While some see a problem in the computer (over-)use of younger generations, there is a predominant reluctance to accept new technologies among many elderly people.³¹³ Especially concerning technologies such as AI the societal mistrust is still high. In order to be efficient AI technology requires massive amounts of data.

4.4.2 Cooperation

A returning aspect is the diversity of the involved actors in the anti-trafficking network.³¹⁴ It can be a challenge to find common grounds in the interdisciplinary work and development, especially to balance competing missions and moralities with new experts entering at all times. In the field of data collection stakeholders encounter difficulties because some NGOs, probation departments and social services practice so-called data gatekeeping.³¹⁵ As the work with data is yet new and evolving, the authority over certain information is not always clear and transparent. Standardised and consistent systems are yet to be determined. The resources to follow through the engineering cycle of a technology are generally limited. This makes cooperation in the development, maintenance and testing phases essential. Further, there is an undeniable lack of regulation for the use of technologies in counter-trafficking. Yet, especially international law must be carefully drafted, considering divergent resources and agendas.³¹⁶

Legislation concerning transnational crime is challenging, because the involved perpetrators operate trans-border and multiple jurisdictions are affected as opposed to traditional systems, which are state based.³¹⁷ Each executive measure again must account for the rights of perpetrators and suspects, while at the same time guaranteeing effective prosecution. An additional challenge is the protection of

311 Hughes (2004) 49-71.

312 OECD (2016) 17.

313 Zdravkova K (2019) 3.

314 Musto J & Boyd D (2014) 14.

315 Latonero M et al (2012) 26.

316 CoE (2002) 93.

317 Shelley (2010) 39.

victims, including physical safety, freedom of movement, and privacy. Victim protection is already an established measure in investigation processes. It is yet to have received adequate consideration after the completion of cases. A standardised framework on technological trafficking-interventions should not unjustifiably infringe on human rights at any stage. As previously pointed out, what needs to be overcome is the moral imperative that methods are justified simply because they serve a greater cause. The mandatory focus on the victim's perspective and empowerment cannot be highlighted enough.

4.4.3 Root Causes

Finally, a challenge that would make any other effort redundant, if successfully achieved, is the elimination of root causes. This means that root causes ideally should not initially emerge. Theoretically, this could only be realised through broadly rethinking economy, labour, and migration systems.³¹⁸ Particularly necessary are the 'political will and agitation for redistributive justice'³¹⁹. In reality, the anti-trafficking scheme focuses on reactive measures, fighting that what intensifies the problem instead of what initially laid the foundation. This is problematic because crime schemes are constantly progressing, utilising every new possibility – not least technologies. Technology is mainly implemented as a reaction to the facilitators of human trafficking.

The current technological tools developed to combat trafficking prove to be insufficient to tackle the circumstances that lead to the root push and pull factors. Instead, new markets are created around the development of anti-trafficking apps and services for social entrepreneurs, in the absence of accountability for the workers and consumers.³²⁰ Some of the tools might be necessary but they are certainly not sufficient. As the use of technologies becomes more sophisticated, it is advisable to take a step back and exploit the available traditional methods. While the challenges so far revolved around limited knowledge, little experience, and almost no training, questions that will become more important in the future will be ones of ethics and morality. It is advisable to integrate, at the current stage of learning, already a sensibility and awareness of the endangered interests.

318 Shelley (2010) 58.

319 Shelley (2010) 17.

320 Limoncelli SA (2020) 45.

4.5 THE RISKS

The limits and consequences entailed in technology-driven trafficking-interventions have been touched upon above. In this section the identified risks will be gathered and supplemented with the help of practical examples.

4.5.1 Privacy

The introduction of mass surveillance technology can have severe repercussions on both a society and the individual. Beginning with the latter, surveillance can have a serious lasting impact on the right to and the perception of privacy. This is particularly the case, where the monitored individual did not give consent or – even worse – had no knowledge about the operation. The sex industry and border areas have been identified as so-called risk milieus for human trafficking. But a blanket observation of all milieu-related behaviour would not be justified or even feasible. In accordance with the presumption of innocence and the principle of equality, the implementation of surveillance measures requires a strong suspicion with the target not being the victim, but the perpetrator.

Other technologies that possibly infringe on personal privacy include facial recognition, location tracking via the Global Positioning System (GPS) and Radio Frequency Identification (RFID), as well as automated data collection. For most of these technologies, the amount of data processed exceeds the capacity of the servers. Which is why not all information can be permanently saved. Hence, the profiling of potential victims and perpetrators is necessary. Easy distinctive features include gender and race.³²¹ As stated above, there are major drawbacks in predictive analytics.

Endangered is further the privacy of an unidentified mass of uninvolved persons, who suffer the right to their personal image and untracked movement. A blanket surveillance approach can cause mistrust in society. Studies have shown that the negative feeling of state control outweighs the positive feeling of safety in the public space.³²² Most people are not prepared to give up privacy for the sake of

321 Ham J et al (2013) 59.

322 See e.g. the report by DATA - PSST and DCSS 'Public Feeling on Privacy, Security and Surveillance' (2015) *Universities of Bangor & Cardiff*.

security. They are aware, that ‘technological advancements might assist in furthering state control over human mobility and people’s access to labour markets is genuine’³²³.

4.5.2 Equality

The potential privacy invasion is not the only problematic aspect. Certain individuals and groups of people are particularly exposed to technology-driven interventions. For example, sex workers who do not identify themselves as trafficking victims run the risk of losing income. Surveillance and restrictions can become an obstacle to good business, safe working conditions and job security. At the same time, many of the affected people depend on technological tools in daily life. Removing technology from a victim or person at risk can have a disempowering effect.³²⁴ Key technologies in this regard reach from mobile phones to worker support apps and online social networks. Particularly in the areas of prostitution and migration, the line between criminalisation and protection is thin and blurry. A lot of decisions at this level have a moral or ethical dimension and the risk of power misuse to impose a certain agenda is high.

Both automated and manual interventions have their limits. Technologies like pattern identification in risk assessments involve complicated methods and ‘algorithms are far from impartial’³²⁵. Hence, the responsibility continues to be in the hands of human individuals. And with that, systemic problems around race, class, religion, gender and other discrimination remain a source of malicious action. There is a lack of sensitisation on the fact that interventions come with a greater risk to marginalised groups.³²⁶ Both state and non-state surveillance, made possible by data and technology, have been intensified on people at risk.³²⁷ As low-income and minority communities are often exposed to false presumptions and predictions, detrimental effects disproportionately afflict them.

323 Milivojevic, Moore & Segrave (2020) 27.

324 Gerry F et al (2016) 211.

325 Musto J & Boyd D (2014) 13.

326 Wijers M (2013) 1.

327 Lyon D ‘The Snowden Stakes: Challenges for Understanding Surveillance Today’ *Surveillance and Society* 13.2 (2015), 139–52 at 13; Musto J, Thakor M & Gerasimov B (2020) 3.

4.5.3 Data Protection

Attached to the collection and processing of information data, specifically personalised case data, is the risk of retaliation and stigmatisation. Data does not exist in a vacuum. And perpetrators are not the only ones abusing, but also the state through corrupt officials.³²⁸ Databases are exposed to the risk of theft and can be subject to hacker attacks.³²⁹ Especially when shared, personalised data becomes vulnerable. At the same time, data-sharing is a key cooperation component across areas and sectors. Leaked personal data is a threat to the physical safety of former victims and related persons, in part because it entails the risk of retaliation. Stigmatisation and re-victimisation are further risks. In some cases, data turns out to be useful for subsequent causes, gradually diverging from the initial aim. When collected information is used for a different than the intended purpose, experts refer to the term function creep.³³⁰ An example for this problem is the misuse of trafficking data as evidence concerning the migration status of a person.

4.5.4 Power

An important aspect in the general field of technological advancement is power. As crime rates legitimise new methods, risk notion authorises control through technology. That could be enhanced state or non-state surveillance of an entire sector or producing a victim subject of an at-risk population. Each new tool and technique that is hastily designed could lead to unwanted consequences. Every outsourced technological aspect of a strategy holds the risk of shifting power from legitimised institutions to non-legitimised private partners. Technology is power in the hands of the one who regulates it.

4.6 THE SAFEGUARDS

Having identified the chances, challenges and risk inherent to the use of new technologies in counter-trafficking, methods of safeguarding the endangered rights will be presented in the following.

A comprehensive anti-trafficking approach requires a responsible use and regulation of technology and power. Every novel technological counter-tool should

328 Wijers M (2013) 1.

329 Zdravkova K (2019) 4.

330 Gerry F et al (2016) 216.

consider the above-mentioned aspects around data. In fact, the necessity of personalised data for combating human trafficking is limited. Anonymous data can provide the same insights in crime statistics and risk areas. What is needed by NGOs for the allocation of resources must not be attributable to individual persons. And when personal information is required in a law enforcement context, authorisation of receivers and holders can enhance data security. As touched upon above, the global regulation framework is insufficient and should be supplemented following victim-centred data-protection principles. That could feature conditions such as court orders or warrants required for lasting infringements of privacy. Factors for such must be found in the individual case's exceptional circumstances in order to be reasonable. To accomplish equitable measures at a high standard, a solid data protection scheme supplementing certain methods is required.

The mentioned EU directive can function as a guideline with regards to securing access to and control over personal data. When it comes to the storage of information data, decentralised approaches correspond to the state of the art.³³¹ Further, homomorphic encryption is suggested as an innovative technology to ensure the protection of sensitive data.³³² Interventions at the economic level of trafficking, with the support of financial institutions, could increase the risk for traffickers. With the help of technology, data could be analysed without showing the sensitive plaintext.

Another safeguard is the temporary character of surveillance measures. An exposure to constant monitoring should require continuous consent in collaboration situations as well as a high transparency standard. A crucial condition is the right to be forgotten, which should be applied to both victims and former perpetrators. Legitimate policing must entail 'clear and strict limitations of the powers of national authorities'³³³. General precautions include training for the users and maintenance of

331 See e.g. the German Open Source Project for the Corona-Warn Application <https://www.coronawarn.app/en/> (visited 19 October 2020).

332 Rajan A, Chief Technology of Polaris at the U.S. House of Representatives Committee on Science, Space & Technology Hearing to the Role of Technology in Countering Trafficking in Persons, July 28 2020 available at <https://polarisproject.org/blog/2020/08/polaris-cto-testifies-on-the-role-of-technology-in-countering-trafficking-in-persons/> (visited 2 November 2020).

333 Gerry F et al (2016) 212.

the technologies. Law enforcement staff and other persons who use modern techniques should undergo specific independent supervision, so that evidence gathered through ambiguous technological methods is legitimate. Evidence which has not been gathered following strict guidelines shall be excluded before court.³³⁴ An enhanced sensibility, awareness and knowledge on what is implied by said guidelines is key for the efficiency of modern methods.³³⁵ A fall-back system needs to be established for when novel tools fail. An example could be the undue monitoring of someone who is not a victim or a perpetrator of human trafficking. Hence, ways must be developed in which people can find support and remove their data. In order to fight the above-mentioned paralysing effect, a sustainable design of new interventions includes follow-up mechanisms.

While monitoring the human rights due diligence standard of private sector entities, with regards for example to their supply chains, depicts a reasonable measure '[a]n approach that is limited to trade embargoes risks shifting the burden as companies go out of business and labourers become even more vulnerable. The key, then, is to ensure that importers act responsibly so that ethical and legal supply chains become the norm and slavery is no longer "modern".'³³⁶

Taken together, the identified safeguards suggest that counter-trafficking efforts need a solid foundation. A major step in this regard, is to involve the affected persons into the development of new measures. Prevention-tool design in the area of labour exploitation would strongly benefit from a 'worker-informed and worker-led'³³⁷ influence. The inherent challenge is to create an environment where the affected people feel confident to 'lead and shape the conversation'³³⁸. The following questions would improve the validation process: What has the anti-trafficking framework to offer for people in need? What is the main goal of this specific measure? Who is the ultimate beneficiary?

334 Gerry F et al (2016) 217.

335 Wijers M (2013) 1.

336 <https://www.weforum.org/agenda/2020/01/how-ai-and-satellite-imaging-tech-can-put-an-end-to-modern-slavery/> (visited 24 August 2020).

337 Milivojevic, Moore & Segrave (2020) 30.

338 Rende Taylor S & Shih E (2019) 162.

4.7 GOOD PRACTICES

By reference to a few initiatives and tools in practise, this section provides an overview of the current technological state of anti-trafficking.

4.7.1 Polaris

The US based NGO Polaris is a data-driven anti-trafficking project founded in 2002. Its initial project is the 'U.S. National Human Trafficking Hotline', which supports victims and people at risk of trafficking. Polaris created a nationwide network, reaching from immediate help to long-term assistance and client services programmes. On the basis of data analyses, an insight into current trafficking schemes is provided, resulting in policy recommendations. As the information gathered stems from so-called survivors, the organisation is distinct in understanding the patterns and trends. The aim is to integrate survivors' expertise in the anti-trafficking innovation process.

The NGO advocates for the required regulations and critically assesses U.S. legislation on state and federal level. Partnered with the IOM, Polaris periodically publishes the 'Human Trafficking Case Database'. Among data-driven strategies, the NGO explores the opportunities of advanced cryptography, secure multiparty computation and other innovations. As one of the recently discussed technologies, encryption may in future help to ensure the protection of sensitive data while at the same time providing valuable knowledge and information to researchers and law enforcement. In this regard, Polaris acts as a network platform for information sharing and cooperation. One specific example is the 'Counter Trafficking Data Collaborative', which harmonises multiple different primary research results into the first open data portal on human trafficking cases.³³⁹

4.7.2 Microsoft

The global technology giant functions as a sponsor and facilitator of research in various areas. Within their 'Technology and Human Rights' section, multiple research programs were initiated. Among them is the work by the aforementioned authors Boyd, Thakor, Casteel and Johnson. Their project began in 2011 and explored the role of technology in human trafficking. One interim finding was that due

339 For more information refer to <https://www.ctdatacollaborative.org> (visited 4 November 2020).
<http://etd.uwc.ac.za/>

to the diffusion of empirical research it is impossible to know whether technological progress resulted in more trafficking cases nor if it can truly help to combat the crime.³⁴⁰ Yet, Microsoft believes that the field is worth exploring, which is shown through funding. A goal is to combine the knowledge of different disciplines to develop sustainable innovation.³⁴¹ Along these lines, the Microsoft 'Digital Crimes Unit' was founded in 2010 as an organisation of transnational investigators, private entities, forensic analysts, and attorneys to support law enforcement in the fight against cybercrime. The inherent infrastructure of advanced analytics and AI is used to combat human trafficking, and so is the aforementioned 'PhotoDNA'. For the development of the 'Child Exploitation Tracking System' Microsoft collaborated with the Canadian national law enforcement agency. The software manages and links child protection cases across jurisdictional boundaries. As a support for investigations involving digital evidence, another development in this regard is the 'Computer Online Forensic Evidence Extractor'. Although these and other technologies were not initially developed for human trafficking scenarios they are applied to them. A proactive and constantly adapting approach is aimed at ensuring that the measures meet the demand.

4.7.3 Other Programs and Initiatives

'Tech Against Trafficking'³⁴² is a coalition of technology companies founded in 2018 to create counter-trafficking technology solutions. It brings together civil society, law enforcement, academia, technologists and survivors in exploring opportunities to innovate counter-trafficking. Considering itself as an innovation accelerator, the collaboration has recently co-released the OSCE report.

Technology supported efforts can further be found within what is broadly known as the Worker-driven Social Responsibility (WSR) network.³⁴³ It originated as a counter-momentum to the so-called Corporate Social Responsibility (CSR) that left the compliance with existing 'fair-working' legislation up to companies and corporations. CSR is known for handling ongoing human rights violations in global

340 Boyd D & Thakor M (2011).

341 More information available at <https://news.microsoft.com/apac/2015/06/22/fighting-human-trafficking-with-technology/> (visited 29 October 2020).

342 Tech Against Trafficking, for more information refer to www.techagainstrafficking.org (visited 20 August 2020).

343 For more information refer to <https://wsr-network.org/resource> (visited 4 November 2020).

supply chains as public relations crises. The approach is characterised by broad standards with ineffective monitoring, the absence of enforcement mechanisms and overall voluntary commitments. It is a failed model of ensuring fair and equal working conditions. WSR on the other hand is defined by the coalition between workers and their organisations to find solutions that ‘ensure the real, verifiable protection of human rights in corporate supply chains’³⁴⁴. The change lies in the shift of power for workers to protect and enforce their own rights. Lean technology plays a big role in that process, because it is widely accessible. The number of mobile phone users worldwide has already reached 3 billion. Initiatives resulting out of the WSR network include the ‘Fair Food Program’³⁴⁵ and ‘Milk with Dignity’³⁴⁶.

‘WeClock’ is a mobile phone application, which enables workers to track data such as their work times, distance travelled throughout a workday, work apps usage outside paid work hours et cetera. Its main feature is that the evidence is not available to third parties. Only the user decides what happens with it, whether it should be shared and combined with other workers’ data to feed campaigns. The information can further serve in a criminal proceeding, if it depicts valid evidence.³⁴⁷

‘Survivors Connect’ is an organisation dedicated to fighting gender-based violence, human trafficking and other hidden crimes. Programs, awareness campaigns, crowdsourcing, training and SMS report platforms are launched to display criminal behaviour in order to stop violence. The organisation therefore collaborates with local partners in various countries.

Other approaches focus on the consumer perspective and responsibility. Ethical consumption apps have been discussed above. To name another project, ‘Slavery Footprint’³⁴⁸ encourages companies to monitor their supply chains while approaching the customers to use their purchase power to reward compliant companies.

344 Factsheet on WSR July 11, 2017, published on website above.

345 For more information see www.fairfoodprogram.org (visited 6 November 2020).

346 For more information see <https://milkwithdignity.org> (visited 6 November 2020).

347 For more information see <https://www.weclock.it> (visited 28 July 2020).

348 For more information see www.slaveryfootprint.org (visited 6 November 2020).

The above-mentioned University of Nottingham Rights Lab's initiative 'Slavery from Space' is a so-called citizen science project aiming at more accurate measurements of the distribution and location of "modern slavery"³⁴⁹. It uses satellite captured data to locate and measure industries and sites with a high risk of slavery by using machine learning techniques.

Aside from academia and NGOs, powerful actors in the anti-trafficking arena are financial institutions. As recognised during the process of combatting economic crimes on a global scale, public-private partnerships with the support of banks form impactful coalitions to identify illicit flows. Launched in 2018, a cooperative project between the financial service companies Lloyd's, Barclays and Western Union, computer giant IBM and Europol exchanges financial data in an international hub. The enhanced information is used to predict and combat human trafficking.³⁵⁰ The data hub platform uses machine learning capabilities and data analyses to drive intersectoral intelligence-led human intervention.³⁵¹ Data security is achieved through a cloud-service with access granted only to authorised stakeholders.

Finally, a low-tech example showing how technology can replace trafficking victims and thereby lower the demand-side are the camel jockey robots in the United Arab Emirates (UAE). Today, the simply constructed robotics broadly substitute the formerly employed children jockeys, mainly trafficked boys from Bangladesh, Sudan and Pakistan as young as three years old. In response to pressure on the governments and international disapproval, the UAE and Qatar have banned the use of human jockeys in camel racing.³⁵² No longer is lawful demand driving the illicit flow of trafficked children. The use of robots may ensure law-abidance.

349 For more information see <https://www.zooniverse.org/projects/ezzjcw/slavery-from-space-punjab/about/research> (visited 6 November 2020).

350 Bacchi U (2018) 'Embrace AI, technology to beat human traffickers, activists told' *Thomson Reuters Foundation* November 15 <https://www.reuters.com/article/us-slavery-conference-tech/embrace-ai-technology-to-beat-human-traffickers-activists-told-idUSKCN1NK2E5> (visited 23 August 2020).

351 For more information refer to <https://www.stopthetraffik.org/what-we-do/traffik-analysis-hub/> (visited 10 November 2020).

352 Khaleej Times (2005) 'UAE enforces stringent steps to eradicate child jockeys' available at <https://www.khaleejtimes.com/nation/general/uae-enforces-stringent-steps-to-eradicate-child-jockeys> (visited 6 November 2020).

4.8 INTERIM FINDING

This chapter has discussed the impact of new technologies on the fight against human trafficking. Using new possibilities provided by the internet and ICTs, the anti-trafficking industry has emerged. The currency is data. While it is doubtful whether each modern trafficking intervention brings an actual benefit to the affected, technologies' general usefulness to improve data was confirmed. Standardised research data can facilitate cooperation and enable a common foundation from which to respond effectively. On the downside, the focus on research can hinder actual progress. The infringement on the right to privacy and other inherent risks demand a high standard of data protection. Particularly because data collection, like other modern measures, disproportionately affect marginalised groups.

Technology provides power to the ones in charge. Hence, technology-facilitated counter-action should be less of a trial and error project, and rather a balanced long-term plan according to the rule of law and human rights principles. The list of safeguards above regarding data ethics, transparency, validation and more should be incorporated in a well-designed approach. When framed as something that can be constructed and designed by people, new technologies lose their deterrent effect and can be leveraged as one out of many pillars for a comprehensive response to human trafficking.

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5 Chapter Five: Conclusion

5.1 INTRODUCTION

The purpose of this work was to explore the world of technology-driven trafficking interventions. This world is at a point, where it is too late to determine whether to introduce technologies into the fight against human trafficking. As elucidate through this study, technology has widely found its way into the anti-trafficking arena. Some technological tools already contribute to the protection of human rights, others need revision in this regard. And still others have turned out to be over-ambitious attempts driven by a global industry of modernisation.

5.2 KEY FINDINGS

Technological innovation developed faster than international legislation. Hence, both crime facilitating and crime obstructing technological tools could flourish in legislative grey areas. States, private entities and individuals are increasingly able to follow, track, study and predict human behaviour. And the information content produced by each individual person is growing constantly. The right to online privacy is deduced from traditional legal phrases, and yet to be put into a distinct regulatory framework.

The current technological state of counter-trafficking is located at a landmark. Digitalisation with all its facets does not exist in a vacuum and is highly topical in multiple areas. This study has found that the times of mystification of technologies are ending and an environment for innovation is created. Powerful technological tools can indeed enable human progress. It is hoped that 'the opportunities for using tech as a tool to identify people ... and to assist them are far greater and they outweigh the threat.'³⁵³ The new era manifests itself in partly overzealous attempts that include mass data collection and blanket surveillance measures.

353 Bhoola U, United Nations leading expert on slavery, London, 2019
<https://news.trust.org/item/20190903163445-c0xau> (visited 28 October 2020).

At the same, a significant crowd in the anti-trafficking arena seems attached to the idea of technology as a quick-fix solution. The unbroken faith in technology as the best possible response to human trafficking is entangled with a misunderstanding of the crime as a one-dimensional phenomenon that ‘obfuscates [its] complex and non-linear nature’³⁵⁴. Equating sex work with prostitution which therefor invariably includes trafficking, is just one of the many simplifications identified by this work.

In consequence, counter-trafficking efforts are increasingly limited to eliminate the novel channels through which people are exploited. Shutting-down websites and regulating online content fail to benefit persons at risk. These measures give the appearance of crime prevention when in reality they serve as excuses for not leading a more successful fight against the modern forms of trafficking. Hence, the anti-trafficking stakeholders would be well advised not to demonise technological advancement and instead try to understand and make their own use of it.

As stated by the US Ambassador to Combat Human Trafficking “there is no magic tech solution to end human trafficking, and innovation should not be overstated. Yet technology, in the right context, can help move us forward.”³⁵⁵ This should be reflected in the expectations placed in technology. The presented good practices suggest that collaboration across sectors and disciplines is necessary. At the same time, failed projects and privacy infringements raise important questions about accountability, autonomy and the nature of human dignity.

Although this work focuses on human trafficking, the insights may well have bearing on other transnational organised crimes. Hence, they will be of assistance to policy makers, law enforcement agencies, and research. Being methodologically limited to literature review, this work lacks original findings. In addition, the scope of this work was of global character and therefor limited in terms of detailed analyses of national jurisdictions. Notwithstanding these limitations, the exploratory nature of this work suggests new perspectives under which to examine the (anti) trafficking-technology nexus. Moving away from framing human trafficking as an organised

354 Milivojevic, Moore & Segrave (2020) 29.

355 Cotton Richmond J (2019) opening remark at the *19th Alliance against Trafficking in Persons Conference*, Vienna, 8 April 2019 available at <https://www.osce.org/secretariat/416744> (visited 24 August 2020).

crime and appreciating it as a problem of labour and markets would benefit modern approaches. This new perspective should help to improve predictions of the impact by digitalisation.

With regards to equality, one of the safeguards to develop sufficient new methods is to prevent the negative impact on marginalised groups, who are assumed to be disproportionately affected by the drawbacks of globalisation. Proactive efforts must go further and consider socio-economic and geo-political factors. Considerably more work will need to be done in order to provide better perspectives to disadvantaged and minority communities. New technologies can be exploited to design efficient processes, especially when they are supported by expert knowledge. This includes people who have experienced trafficking, victims, survivors, to understand what kind of support is actually needed. A 'heightened focus on technology promotes new types of expertise and also encourages new kinds of experts to join the anti-trafficking table'³⁵⁶.

In the light of the current global situation, where the world has been struck by a pandemic and a significant part of work has shifted online, the impact on human trafficking cannot yet be shown, but is assumed to be significant.³⁵⁷ If the aftermath of the pandemic shows that brothels and hotels remain closed, refugee camps are overcrowded, and debts are rising, parallels to the root causes for trafficking become visible. An overall aim in the fight against human trafficking should be the mitigation of these roots for pushing people away from their homes and pulling them towards dangerous but seemingly bright futures. In an environment that fosters innovation and closes knowledge gaps, technology can make a difference.

5.3 CONCLUSION

Having identified a lack of evaluation of the implemented technological counter-trafficking tools, this present thesis lays the groundwork for future study. Instead of using the existing infrastructure and resources to determine the precise impact technology might have had on facilitating the crime, efforts should be

356 Musto J & Boyd D (2014) 14.

357 Bobrow M 'COVID-19's Impact on Human Trafficking' *MPI* July 29, 2020
<https://www.mpi.org/blog/article/covid-19-s-impact-on-human-trafficking> (visited 30 November 2020).

channelled towards exploring its realistic potential in counter-trafficking. To conclude, I emphasise a nuanced and innovative use of technology as one out of a variety of tools in a comprehensive strategy to transform the systems that create vulnerability. At the best, technology can help rebalance the power 'back in the hands of victims and survivors.'³⁵⁸



358 Rajan A, CTO of Polaris, July 2020 available at <https://polarisproject.org/blog/2020/08/polaris-cto-testifies-on-the-role-of-technology-in-countering-trafficking-in-persons/> (visited 28 January 2021).

List of Abbreviations

AI	Artificial Intelligence
CATW	Coalition Against Trafficking in Women
CoE	Council of Europe
CPI	Corruption Perception Index
CSR	Corporate Social Responsibility
EU	European Union
FATF	Financial Action Task Force
GAATW	Global Alliance Against Traffic in Women
Glo.Act	Global Action Against Trafficking of Persons and the Smuggling of Migrants
GPS	Global Positioning System
GRETA	Group of Experts on Action against Trafficking in Human Beings
HDI	Human Development Index
ICT	Information and communications technology
ILO	International Labour Organization
IOM	International Organization of Migration
IoT	Internet of Things
MSE	Multiple System Estimate
NGO	Non-governmental organization
OECD	Organisation for Economic Co-operation and Development
OSCE	Organization for Security and Co-operation in Europe
RFID	Radio-frequency identification
SHERLOC	Sharing Electronic Resources and Laws on Crime
TIP	Trafficking in Persons Report
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations International Children's Emergency Fund
UNODC	United Nations Office on Drugs and Crime
UNTOC	United Nations Convention Against Transnational Organized Crime
US	United States
USC	University of Southern California
WSR	Worker-driven Social Responsibility

Bibliography

A. Primary Sources

1. Legislation

Convention Against Transnational Organized Crime and the Protocols Thereto, 2000 United Nations General Assembly Resolution 55/25 (2003).

Convention on the Elimination of all Forms of Discrimination Against Women, 1979 United Nations Human Rights Office of the High Commissioner (1981).

Convention on the Rights of the Child, 1989 United Nations Children's Fund (1990).

Guidelines Concerning Computerized Personal Data Files, 1990 United Nations General Assembly resolution 45/95 (1990).

Guidelines Governing the Protection of Privacy and Transborder Flows of Personal Data, 1980 Organisation for Economic Co-operation and Development (1980).

International Covenant on Civil and Political Rights, 1976 United Nations General Assembly Resolution 2200A (XXI) (1976).

Universal Declaration on Human Rights, 1948 United Nations General Assembly Resolution 217 (1948).

2. Case Law

Dart v Craigslist, Inc., 665 F. Supp. 2d 961 (N.D. Ill. 2009).

Marckx v Belgium ECHR 13-Jun-1979, App. No. 6833/74.

Peck v United Kingdom ECHR 28-Jan-2003, 36 EHRR.

B. Secondary Sources

1. Books

Shelley L *Human Trafficking: A Global Perspective* New York: Cambridge University Press (2010).

Kempadoo K & Doezema J eds. *Global Sex Workers: Rights, Resistance and Redefinition* New York: Routledge (1998).

2. Journal Articles

Barner J Okech D & Camp M 'Socio-Economic Inequality, Human Trafficking, and the Global Slave Trade' *Societies* 4.2 (2014) 148–60.

- Barney D 'Trafficking Technology: A Look at Different Approaches to Ending Technology-Facilitated Human Trafficking' *Pepperdine Law Review* 45.4 (2018) 747–84.
- Bassiouni MC Rothenberg D Higonnet E Farenga C & Invictus AS 'Addressing International Human Trafficking in Women and Children for Commercial Sexual Exploitation in the 21st Century' *International Review of Penal Law* 81 (2010) 417-91.
- Bessen JE 'How Computer Automation Affects Occupations: Technology, Jobs, and Skills' *SSRN Electronic Journal* 15 (2015).
- Blazek M Esson J & Smith DP 'Relational Geographies of Human Trafficking: Inequality, Manoeuvring and Im/Mobility across Space and Time' *Transactions of the Institute of British Geographers* 44.1 (2019) 63–78.
- Chuang JA 'Rescuing Trafficking From Ideological Capture : Reform and Anti-Trafficking Law and Policy' *University of Pennsylvania Law Review* 158 (2010) 1655–1729.
- Dixon HBJ 'Human Trafficking and the Internet (and Other Technologies, Too)' *Judges Journal* 1 (2013) 36-39.
- Fukushima AI 'Witnessing in a Time of Homeland Futurities' *Anti-Trafficking Review* 14 (2020) 67-81.
- Gallagher A 'Human Rights and the New UN Protocols on Trafficking and Migrant Smuggling: A Preliminary Analysis' *Human Rights Quarterly* 23.4 (2001) 975–1004.
- Geiger M & Pécoud A 'International Organisations and the Politics of Migration' *Journal of Ethnic and Migration Studies* 40.6 (2014), 865–87.
- Geldenhuys K 'Human Trafficking: A Click Away' *Servamus* (2018) 12-15.
- Gerry F, Muraszkievicz J & Iannelli O 'The Drive for Virtual (Online) Courts and the Failure to Consider Obligations to Combat Human Trafficking – A Short Note of Concern on Identification, Protection and Privacy of Victims' *Computer Law and Security Review* 34.4 (2018) 912–19.
- Gerry F, Muraszkievicz J & Vavoula N 'The role of technology in the fight against human trafficking: Reflections on privacy and data protection concerns' *Computer Law and Security Review* 32.2 (2016) 205-17.
- Ham J Segrave M & Pickering S 'In the Eyes of the Beholder: Border Enforcement, Suspect Travellers and Trafficking Victims' *Anti-Trafficking Review* 2.2 (2013)

51–67.

Hughes DM 'The Internet and Sex Industries: Partners in Global Sexual Exploitation' *IEEE Technology and Society Magazine* 19.1 (2000) 35–42.

Hughes DM 'Trafficking in Human Beings in the European Union: Gender, Sexual Exploitation, and Digital Communication Technologies' *SAGE Open* 4.4 (2014) 1-8.

Iroanya RO 'Human Trafficking with Specific Reference to South African and Mozambican Counter-Trafficking Legislation' *Acta Criminologica: Southern African Journal of Criminology* 27.2 (2014) 102–15.

Jaleel RM 'The Wages of Human Trafficking' *Brooklyn Law Review* 81.2 (2016) 563–625.

Kim K 'The Coercion of Trafficked Workers' *Iowa Law Review* 96 (2011) 409–74.

Kotiswaran P 'Beyond Sexual Humanitarianism : A Postcolonial Approach to Anti-Trafficking Law' *UC Irvine Law Review* 4 (2014) 353–406.

Kunze EI 'Sex Trafficking Via The Internet: How International Agreements Address The Problem And Fail To Go Far Enough' *Journal of High Technology Law* 1 (2010) 241–89.

Leggett T 'Hidden Agendas? The Risk of Human Trafficking Legislation' *South African Crime Quarterly* 9 (2016) 1-5.

Limoncelli SA 'There's an App for That? Ethical consumption in the fight against trafficking for labour exploitation' *Anti-Trafficking Review* 14 (2020) 33-46.

Limoncelli SA 'The trouble with trafficking: Conceptualizing women's sexual labor and economic human rights' *Women's Studies International Forum* 32 (2009) 261-69.

Lyon D 'The Snowden Stakes: Challenges for Understanding Surveillance Today' *Surveillance and Society* 13.2 (2015) 139–52.

MacKinnon CA 'Trafficking, Prostitution, and Inequality' *Harvard Civil Rights-Civil Liberties Law Review* 46 (2011) 271–309.

Majic S 'Same Same but Different? Gender, sex work, and respectability politics in the MyRedBook and Rentboy closures' *Anti-Trafficking Review* 14 (2020) 82-98.

Marttila AM 'Desiring the "Other": Prostitution Clients on a Transnational Red-Light District in the Border Area of Finland, Estonia and Russia' *Gender Technology and Development* 12 (2008) 31-51.

Mendel J & Sharapov K 'Human Trafficking and Online Networks: Policy, Analysis, and Ignorance' *Antipode* 48.3 (2016) 665–84.

- Milivojevic S, Moore H & Segrave M 'Freeing the Modern Slaves, One Click at a Time: Theorising human trafficking, modern slavery, and technology' *Anti Trafficking Review* 14 (2020) 16-32.
- Mogulescu K & Goodmark L 'Surveillance and Entanglement: How mandatory sex offender registration impacts criminalised survivors of human trafficking' *Anti-Trafficking Review* 14 (2020) 125-30.
- Musto J 'The Limits and Possibilities of Data-Driven Antitrafficking Efforts' *Georgia State University Law Review* 36.4 (2020) 1147–72.
- Musto J, Thakor M & Gerasimov B 'Editorial: Between Hope and Hype: Critical evaluations of technology's role in anti-trafficking' *Anti Trafficking Review* 14 (2020) 1-14.
- Obertová Z & Cattaneo C 'Child Trafficking and the European Migration Crisis: The Role of Forensic Practitioners' *Forensic Science International* 282 (2018) 46–59.
- Rende Taylor L & Shih E 'Worker Feedback Technologies and Combatting Modern Slavery in Global Supply Chains: Examining the Effectiveness of Remediation-Oriented and Due-Diligence-Oriented Technologies in Identifying and Addressing Forced Labour and Human Trafficking' *Journal of the British Academy* 7 (2019) 131–65.
- Richardson K 'Sex Robot Matters: Slavery, the Prostituted and the Rights of Machines!' *IEEE Technology and Society Magazine* 35.2 (2016) 46–53.
- Sharapov K 'Giving Us the "Biggest Bang for the Buck" (or Not): Anti-Trafficking Government Funding in Ukraine and the United Kingdom' *Anti-Trafficking Review* 3 (2014) 1–14.
- Simmons BA, Lloyd P & Stewart BM 'The Global Diffusion of Law: Transnational Crime and the Case of Human Trafficking' *International Organization* 72.2 (2018) 249–81.
- Thakor M & Boyd D 'Networked Trafficking: Reflections on Technology and the Anti-Trafficking Movement' *Dialectical Anthropology* 37.2 (2013) 277–90.
- Tien MT 'Human Trafficking: The Missing Male Victim' *Public Interest Law Reporter* 18.3 (2013) 207–14.
- Todorof M 'FinTech on the Dark Web: the rise of cryptos' *ERA Forum* (2019).
- Weitzer R 'New Directions in Research on Human Trafficking' *Annals of the American Academy of Political and Social Science* 653.1 (2014) 6–24.
- Weitzer R 'The Social Construction of Sex Trafficking: Ideology and

Institutionalization of a Moral Crusade' *Politics and Society* 35.3 (2007) 447–75.

Welch SA 'Human Trafficking and Terrorism: Utilizing National Security Resources to Prevent Human Trafficking in the Islamic State' *Duke Journal of Gender Law & Policy* 24 (2017) 165–88.

Wheaton EM, Schauer EJ & Galli TV 'Economics of Human Trafficking' *International Migration* 48.4 (2010) 114–41.

Wilkins C 'Using Drones to Fight Slavery in the Fields: An Examination of the Practicality and Constitutionality of Applying 21st Century Technology to a 21st Century Problem' *Hastings Environmental Law Journal* 24.1 (2018) 157–78.

Zdravkova K 'Reconsidering Human Dignity in the New Era' *New Ideas in Psychology* 54. April 2017 (2019) 112–17.

C. Reports & Working Papers

Center for Social Justice (CSJ) & Justice & Care *It Still Happens Here: Fighting UK Slavery in the 2020s* (2020): London, Westminster.

Council of Europe (CoE) 'Final Report' *Group of Specialists on the Impact of the Use of New Information Technologies on Trafficking in Human Beings for the Purpose of Sexual Exploitation* (2002) EG-S-NT: Strasbourg.

CoE *Monitoring Mechanism - Convention on Action against Trafficking in Human Beings* (2014): Strasbourg.

Farley M Bindel J & Golding JM *Men Who Buy Sex: Who They Buy and What They Know* (December 2009): London.

Financial Action Task Force (FATF) and the Asia/Pacific Group on Money Laundering (APG) *Financial Flows from Human Trafficking* (July 2018): Paris.

Foot K & Vanek J 'Toward Constructive Engagement Between Local Law Enforcement and Mobilization and Advocacy Nongovernmental Organizations About Human Trafficking: Recommendations for Law Enforcement Executives' *Law Enforcement Executive Forum* 12.1 (2012).

Hughes Donna M for the CoE EG-S-NT (2001) 'The Impact of the Use of New Communications and Information Technologies on Trafficking in Human Beings for Sexual Exploitation A Study of the Users' Committee for Equality between Women and Men (CDEG).

International Labor Organization & Walk Free Foundation *Global Estimates of Modern Slavery: Forced Labour and Forced Marriage* (2017) ILO & Walk Free

Foundation: Geneva.

- Jolluck KR 'Combatting the Trafficking of Women in Eastern Europe' *Stanford University Program on Human Rights, Center on Democracy, Development, and the Rule of Law Freeman Spogli Institute for International Studies* (2012).
- Latonero M, Bernahe G, Hernandez A, Mohebi T & Movius L (2011) 'Human Trafficking Online: The Role of Social Networking Sites and Online Classifieds' *USC Annenberg School for Communication & Journalism: Center on Communication Leadership & Policy*.
- Latonero M, Dank M & Wex B (2015) 'Technology and Labor Trafficking in a Network Society' *USC Annenberg School for Communication & Journalism: Center on Communication Leadership & Policy*.
- Latonero M, Musto J, Boyd Z & Boyle E (2012) 'The Rise of Mobile and the Diffusion of Technology-Facilitated Trafficking' *USC Annenberg Center on Communication Leadership & Policy: Center on Communication Leadership & Policy*.
- McAlister R (2015) 'Web scraping as an Investigation Tool to Identify Potential Human Trafficking Operations in Romania' *ACM Web Science Conference, June 28 - July 01 2015: Oxford*.
- Muskat-Gorska Z et al (2011) *The Role of the Internet in Trafficking for Labour Exploitation*, project in cooperation with FINE TUNE and ISEC.
- OSCE Office of the Special Representative and Co-ordinator for Combating Trafficking in Human Beings and Tech Against Trafficking (2020) *Leveraging Innovation to Fight Trafficking in Human Beings: A Comprehensive Analysis of Technology Tools*, Vienna.
- United Nations Global Initiative to Fight Human Trafficking (UN.GIFT) *Workshop: Technology and Human Trafficking* (2008): Vienna.
- U.S. Department of State (2014) *Trafficking in Persons Report 2014*.
- Wijers M 'Where Do All the Data Go? European Data Protection Law and the Protection of Personal Data of Trafficked Persons' *datACT – Conference on data protection and trafficking* 25 September 2013.
- World Bank (2020) 'Supporting Countries in Unprecedented Times' *Annual Report 2020*, Washington, DC.

D. Internet Sources

- Agarwal P (2019) 'Can we really spot slavery from space?' *openDemocracy* available at <https://www.opendemocracy.net/en/beyond-trafficking-and-slavery/can-we-really-spot-slavery-space/> (visited 19 August 2020).
- Bacchi U (2018) 'Embrace AI, technology to beat human traffickers, activists told' *Thomson Reuters Foundation* November 15 <https://www.reuters.com/article/us-slavery-conference-tech/embrace-ai-technology-to-beat-human-traffickers-activists-told-idUSKCN1NK2E5> (visited 23 August 2020).
- Bhoola U, United Nations leading expert on slavery, London, 2019 <https://news.trust.org/item/20190903163445-c0xau> (visited 28 October 2020).
- Bobrow M 'COVID-19's Impact on Human Trafficking' *MPI* July 29, 2020 <https://www.mpi.org/blog/article/covid-19-s-impact-on-human-trafficking> (visited 30 November 2020).
- Coalition Against Trafficking in Women (CATW)* <https://catwinternational.org/our-work/> (visited 12 May 2020).
- Cotton Richmond J (2019) opening remark at the *19th Alliance against Trafficking in Persons Conference*, Vienna, 8 April 2019 available at <https://www.osce.org/secretariat/416744> (visited 24 August 2020).
- Council of Europe 'Convention on Action against Trafficking in Human Beings' current ratification status available at https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/197/signatures?p_auth=bKsFe7TP (visited 20 June 2020).
- Fair Food Program, more information available at www.fairfoodprogram.org (visited 6 November 2020).
- Financial Action Taskforce (FATW)* for more information refer to <https://www.fatf-gafi.org> (visited 25 November 2020).
- Fedotov J (executive director of UNODC at the time) *Crime Commission to address protection of children from exploitation on the Web* (April 11th 2011) available at <https://www.unodc.org/unodc/en/frontpage/2011/April/crime-commission-to-address-the-protection-of-children-from-exploitation-on-the-web.html> (visited 4 July 2020).
- German Open Source Project for the Corona-Warn Application <https://www.coronawarn.app/en/> (visited 19 October 2020).
- Global Alliance Against Traffic in Women (GAATW)* <https://gaatw.org> (visited 13 May 2020).

Global Data Hub on Human Trafficking, for more information refer to <https://www.ctdatacollaborative.org> (visited 4 November 2020).

Global Internet Usage Statistics available at <https://www.internetworldstats.com/stats.htm> (visited 27 July 2020).

Hovy E (2012) at the Microsoft Research Faculty Summit 'The Role of Technology in Human Trafficking' available at <https://www.microsoft.com/en-us/research/video/the-role-of-technology-in-human-trafficking/> (visited 9 July 2020).

Khaleej Times (2005) 'UAE enforces stringent steps to eradicate child jockeys' available at <https://www.khaleejtimes.com/nation/general/uae-enforces-stringent-steps-to-eradicate-child-jockeys> (visited 6 November 2020).

Kar D 'Globalisation, Illicit Financial Flows Widen Inequality' *Thomson Reuters Foundation* (2013) available at <https://gfintegrity.org/press-release/globalisation-illicit-financial-flows-widen-inequality/> (visited 11 June 2020).

McKinley J (2019) 'Bills to Decriminalize Prostitution Are Introduced. Is New York Ready?' *The New York Times* 11 June 2019 available at <https://www.nytimes.com/2019/06/11/nyregion/prostitution-legal-ny.html> (visited 30 July 2020).

Microsoft Research 'Fighting Human Trafficking with Technology' 22 June 2015, available at <https://news.microsoft.com/apac/2015/06/22/fighting-human-trafficking-with-technology/> (visited 29 October 2020).

Milk With Dignity, more information available at <https://milkwithdignity.org> (visited 6 November 2020).

Miller C M & Moskovitz D (2012) 'Young prostitutes off the streets and online' *The Miami Herald* available at www.miamiherald.com/2012/07/28/v-full-story/2980491/young-prostitutes-off-the-streets.html (visited July 6 2020).

Nordic Model, information available at <https://nordicmodelnow.org> (visited 29 April 2020).

National Association of Attorneys General (2013) Letter to Senator Rockefeller, Senator Thune, Representative Upton, and Representative Waxman <https://www.eff.org/sites/default/files/cda-ag-letter.pdf> (visited 20 July 2020).

Opray M (2017) 'Robots May Change the Sex Industry but could they Replace Intimacy?' in *The Guardian News* of Wed 5 Apr 2017 <https://www.theguardian.com/sustainable-business/2017/apr/05/robots->

[may-change-the-sex-industry-but-could-they-replace-intimacy](#) (visited 28 July 2020).

OSCE (2020) 'Prosecute human traffickers and deliver justice to victims' *OSCE Alliance Conference against Trafficking in Persons*, Vienna <https://www.osce.org/cthb/457702> (visited 5 January 2021).

Pescinski J (2015) *A Human Rights Approach to Human Trafficking* United Nations University, Institute on Globalization, Culture and Mobility, available at: <https://gcm.unu.edu/publications/articles/a-human-rights-approach-to-human-trafficking.html> (visited 18 May 2020)

Rajan A, Chief Technology of Polaris at the U.S. House of Representatives Committee on Science, Space & Technology Hearing to the Role of Technology in Countering Trafficking in Persons, July 28 2020 available at <https://polarisproject.org/blog/2020/08/polaris-cto-testifies-on-the-role-of-technology-in-countering-trafficking-in-persons/> (visited 2 November 2020).

Rosenberg T (2019) 'A.I. Joins the Campaign Against Sex Trafficking' *The New York Times* 9 April 2019 available at [https://www.nytimes.com/2019/04/09/opinion/ai-joins-the-campaign-against-sex-trafficking.html%20\[https://perma.cc/7223-D33P\]](https://www.nytimes.com/2019/04/09/opinion/ai-joins-the-campaign-against-sex-trafficking.html%20[https://perma.cc/7223-D33P]) (visited 30 July 2020).

Simpson R 'The 2017 US trafficking in persons report: A critique' (2017) available at <https://prachatai.com/english/node/7280> (visited 4 July 2020).

Slavery Footprint, more information available at www.slaveryfootprint.org (visited 6 November 2020).

Tech Against Trafficking, for more information refer to www.techagainstrafficking.org (visited 20 August 2020).

Traffik Analyses Hub, more information available at <https://www.stopthetraffik.org/what-we-do/traffik-analysis-hub/> (visited 10 November 2020).

Trodd Z, director of the University of Nottingham Rights Lab (2020) *Thomson Reuters Foundation News* available at https://news.trust.org/item/20200713112335-sg139/?utm_campaign=trafficking&utm_medium=newsletter&utm_source=mainListing&utm_content=link6&utm_contentItemId=20200713112335-sg139 (visited 17 July 2020).

Truckers Against Trafficking, information available at <https://truckersagainstrafficking.org> (visited 30 November 2020).

United Nations, Treaty Series, vol. 2237, p. 319; Doc. A/55/383, current ratification status available at https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XVIII-12-a&chapter=18&clang=en (visited 15 June 2020).

United Nations Development Program 'Human Development Index' available at <http://hdr.undp.org/en/content/human-development-index-hdi> (visited 11 June 2020).

United Nations Office of Drugs and Crime 'Mechanism for the Review of the Implementation of the United Nations Convention against Transnational Organized Crime and the Protocols thereto' (2019) available at <https://www.unodc.org/unodc/en/organized-crime/intro/review-mechanism-untoc.html> (visited 24 June 2020).

United Nations Office of Drugs and Crime 'Overview on Human Trafficking' <https://www.unodc.org/unodc/en/human-trafficking/glo-act/overview.html> (visited 24 June 2020).

University of Nottingham (2017) for more information on the project see <https://www.nottingham.ac.uk/connectonline/research/2017/fighting-slavery-from-space.aspx> (visited 6 November 2020).

University of Nottingham Rights Lab Data and Measurement Programme <https://www.nottingham.ac.uk/research/beacons-of-excellence/rights-lab/programmes/data/index.aspx> (visited 22 August 2020).

University of Nottingham 'Slavery from Space: Punjab' Zooniverse, more information available at <https://www.zooniverse.org/projects/ezzjcw/slavery-from-space-punjab/about/research> (visited 6 November 2020).

WeClock, more information available at <https://www.weclock.it> (visited 28 July 2020).

WeForum, more information available at <https://www.weforum.org/agenda/2020/01/how-ai-and-satellite-imaging-tech-can-put-an-end-to-modern-slavery/> (visited 24 August 2020).

Wijers M 'Where Do All the Data Go? European Data Protection Law and the Protection of Personal Data of Trafficked Persons' at *datACT* – Conference on Data Protection and Trafficking, Berlin, 25-27 September 2013, 1–7 available at https://www.kok-gegen-menschenhandel.de/fileadmin/user_upload/medien/Projekte/datACT_Wijers_Where_do_all_the_data_go.pdf (visited 23 July 2020).


Wolak J (2012)'The Role of Technology in Human Trafficking' at the *Microsoft Research Faculty Summit* available at <https://www.microsoft.com/en-us/research/video/the-role-of-technology-in-human-trafficking/> (visited 9 July 2020).

Worker-Driven Social Responsibility Network, more information available at <https://wsr-network.org/what-is-wsr/> (visited 13 June 2020).



DECLARATION

I declare that **Human Trafficking 2.0: The Impact of New Technologies** is my own work, that it has not been submitted before for any degree or examination in any other university, and that all sources I have used or quoted have been indicated and acknowledged as complete references.

Signed.....

Viola Rentzsch

Signed.....

Prof. A J Hamman

