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Detecting Human Trafficking? Your Anti-Money Laundering Program & SAS® Visual Investigator Can Help

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ABSTRACT

According to CNN, there are approximately 20 to 30 million slaves in the world today. Trafficking in Human Beings (THB) – often simply referred to as "human trafficking" – is the third largest international crime industry, behind illegal drugs and arms trafficking. THB generates a profit of \$32 billion every year. Of that amount, \$15.5 billion is made in industrialized countries. The United States, possibly surprisingly, is one of the highest THB destinations in the world. (Bales, 2017).

Can an established anti-money laundering program assist with combating THB? The short answer is "yes." A July 2011 Financial Action Task Force (FATF) report best summarizes this as follows: "There is no specific guidance on money laundering associated with THB/SOM [smuggling of migrants] because the channels used, the instruments and the sectors implied are the same as for other criminal activities. However, the emphasis [for THB] can be different and as those activities in their first steps are mostly cash-based businesses, it is important to pay special attention to cash operations." (FATF, July 2011, p. 63). FATF lists a number of case studies and THB "red flag indicators" that are considered helpful to the financial industry to better fight money laundering – AKA anti-money laundering or AML – resulting from THB. (FATF, July 2011, Annex B, pp. 63-67)

INTRODUCTION

My first detailed exposure to the complexities and cruelties involving human trafficking took place at the 2017 Association of Certified Anti-Money Laundering Specialists (ACAMS) conference in Hollywood, Florida. Sara Crowe, Data Analysis Program Director for Polaris – an anti-THB non-profit organization – keynoted a panel moderated by David Clark from Standard Chartered Bank. The topic was "How AML Professionals Can Combat Human Trafficking." (Crowe, 2017).

At the recommendation of my wife, Jennifer, I later read "My Family's Slave" in the June 2017 issue of *The Atlantic* magazine, written by Alex Tizon. He tells his story of their Manilan housekeeper of 56 years only realizing as he got older that she was effectively a slave servant. Then I became hooked on the topic of human trafficking and what we can do reduce it.

"Polaris is an important leader in the global fight to eradicate modern slavery. Named after the North Star that guided slaves to freedom in the U.S., Polaris systemically disrupts the human trafficking networks that rob human beings of their lives and their freedom. Our comprehensive model puts victims at the center of what we do – helping survivors restore their freedom, preventing more victims, and leveraging data and technology to pursue traffickers wherever they operate." (Polaris, 2019).

In addition to assisting victims and working to prevent human trafficking, Polaris accumulates possibly the largest known database on human trafficking. Polaris also authors "The Typology of Modern Slavery: Defining Sex and Labor Trafficking in the United States."

The U.S. Department of Homeland Security (DHS) is also a major player in combating human trafficking. Their Blue Campaign aims at supporting law enforcement, government, non-governmental and private organizations, and it focuses on protecting the basic right of freedom and to bring those who exploit human lives to justice. (DHS, 2019).

In this session, we introduce THB referencing both the Polaris' Typology document and DHS' Blue Campaign, discuss some of the case studies yielding FATF's red flag indicators, and you learn about how SAS® Visual Investigator can incorporate combatting THB into a money laundering program's scenarios, alert generation, and investigations.



Figure 1: Logos of the Primary Organizations and/or Programs from Which a Significant Portion of This Document Content Is Derived. Clockwise from Top Left, Polaris, prior and current Financial Action Task Force/Groupe d'action financière (FATF/GAFI), Department of Homeland Security (DHS) Blue Campaign, and Association of Certified Anti-Money Laundering Specialists (ACAMS).

TRAFFICKING IN HUMAN BEINGS: WHAT IS IT?

Let's examine how some of the above reference materials define and categorize the trafficking in human beings.

FATF/GAFI

FATF refers to THB as Trafficking in Persons. Trafficking in persons is "the recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude or the removal of organs." (FATF, July 2011, p. 11).

Two key attributes of THB from above are as follows:

- "A person having control over another person" (i.e. loss of one's freedom)
- "Exploitation" (i.e. unfairly benefitting from someone else's work)

Smuggling of Migrants

Though it is sometimes confused with THB, Smuggling of Migrants (SOM) is not synonymous with human trafficking.

SOM is when someone seeks financial or other material benefit from the illegal entry of a person into a State Party of which the person is not a national or a permanent resident. (FATF, July 2011, p. 11).

The July 2011 FATF report includes a useful table from the United Nations Office on Drugs and Crime (UNODC) that explains some differences between THB and SOM as follows:

Table 1: Comparing Trafficking in Persons with Smuggling of Migrants (UNODC, 2011, p. 12).

	Smuggling of migrants	Trafficking in persons
Consent	Required	Becomes irrelevant
Exploitation	Not required	Required
Transnationality	Required	Not required

Table 2: Explaining the UNODC 2011 Uses of the Terms Consent, Exploitation, and Transnationality (UNODC, 2001, p. 12).

Consent: The smuggling of migrants, while often undertaken in dangerous or degrading conditions, involves migrants who have consented to the smuggling. Trafficking victims, on the other hand, have either never consented or, if they initially consented, that consent has been rendered meaningless by the coercive, deceptive or abusive actions of the traffickers.

Exploitation: Smuggling ends with the arrival of the migrants at their destination, whereas trafficking involves the ongoing exploitation of the victims in some manner to generate illicit profits for the traffickers.

Transnationality: Smuggling is always transnational, whereas trafficking need not be. Trafficking can occur regardless of whether victims are taken to another country or only moved from one place to another within the same country. (UNODC, 2011, p. 12).

DEPARTMENT OF HOMELAND SECURITY BLUE CAMPAIGN

Human trafficking is modern-day slavery and involves the use of force, fraud, or coercion to obtain some type of labor or commercial sex act. Millions of men, women, and children are trafficked into forced labor situations and into the sex trade worldwide. Many of these victims are lured from their homes with false promises of well-paying jobs; instead, they are forced or coerced into prostitution, domestic servitude, or other types of forced labor. Victims are found in legitimate and illegitimate labor industries, including sweatshops, massage parlors, agricultural fields, restaurants, hotels, and domestic service. (DHS 2019a).

Note the two key attributes of THB being called out again as follows:

- "Modern-day slavery" (i.e. loss of one's freedom)
- "Force, fraud, or coercion" (i.e. unfairly benefitting from someone else's work)

POLARIS

Human trafficking is often placed into two categories, sex trafficking and labor trafficking.

Ironically, while Polaris' most recognized publication – *The Typology of Modern Slavery: Defining Sex and Labor Trafficking in the United States* – contains the word "defining" in its subtitle, the document does not bother to define human trafficking. Rather, in an aim to develop more targeted approaches for addressing the many forms of human trafficking, Polaris' *Typology* segments THB into "The 25 types of modern slavery."

Between 2007 and 2016, Polaris gathered data around over 32,000 cases of potential human trafficking and over 10,000 potential cases of labor exploitation in the U.S. (Polaris, 2019, p. 7). Through analyzing this data, Polaris is able to define 25 different segments of U.S. human trafficking.

Table 3: List of Polaris' 25 Human Trafficking Segments and Numbers of Cases Analyzed in Study (Polaris 2019)

Polaris' Human Trafficking Segments	
1. Escort Services 4651	14. Construction 144/405
2. Illicit Massage, Health, & Beauty 2949	15. Hotels and Hospitality 124/510
3. Outdoor Solicitation 1643	16. Landscaping 112/664
4. Residential Brothels 1290	17. Illicit Activities 111/76
5. Domestic Work 1190/396	18. Arts & Entertainment 102/52
6. Bars, Strip Clubs, and Cantinas 792	19. Commercial Cleaning Services 93/344
7. Pornography 616	20. Factories and Manufacturing 78/200
8. Traveling Sales Crews 575/88	21. Remote Interactive Sexual Acts 78
9. Restaurants & Food Service 524/1217	22. Carnivals 52/79
10.Peddling and Begging 494	23. Forestry and Logging 50/163
11.Agriculture & Animal 424/1529	24. Healthcare 46/59
12.Personal Sexual Servitude 405	25. Recreational Facilities 37/220
13.Health and Beauty Services 295/116	

Note: where a single number is listed, it represents the number of cases; where two numbers are listed the cases are further broken down into the frequency of Human Trafficking and the frequency of Labor Exploitation.

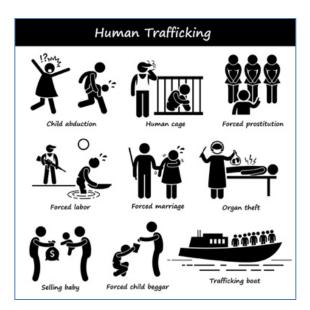


Figure 2: Graphical Depiction of Some Features of Human Trafficking (Shutterstock, March 2019)

THB: A GLOBAL PHENOMENON

As shown in the map below, THB is truly a global crisis, with the majority of world bodies affected.

"The International Labour Organization estimates that 20.9 million people are victims of forced labour globally.

According to the *Global Report on Trafficking in Persons 2012*, at least 136 different nationalities were trafficked and detected in 118 different countries. Human trafficking happens throughout the world with millions of victims falling through the cracks of their own societies only to be exploited by traffickers. They can be found in the world's restaurants, fisheries, brothels, farms and homes, among many other activities.

By 2012, 134 countries and territories had enacted legislation criminalizing trafficking. Indeed, the percentage of countries without an offence criminalizing this activity halved between 2008 and 2012. There is also evidence that trafficking from Eastern Europe and Central Asia has been declining since 2000.

Overall, the international community has the tools to confront this crime. The widespread ratification of the Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children is a success story. Currently, 154 countries have ratified it. The Protocol is closely supported by the Global Plan of Action to Combat Trafficking in Persons, which also established the Trust Fund for Victims of Trafficking in Persons, Especially Women and Children to aid the victims." (UNODC, 2012, p.1).

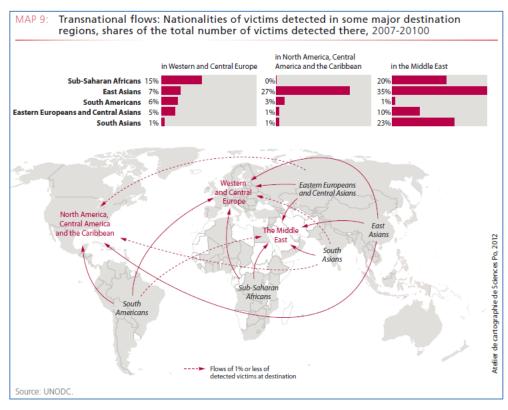


Figure 3: Transnational Flows: Nationalities of Victims Detected in Some Major Destination Regions, Shares of the Total Number of Victims Detected There, 2007-2010 (UNODC, 2012, p. 48)

A FATF/GAFI CASE STUDY

The July 2011 FATF report, *Money Laundering Risks Arising from Trafficking in Human Beings and Smuggling of Migrants*, contains fifteen human trafficking case studies. We'll look at one of these real-world examples of human trafficking to familiarize ourselves with how THB can intersect with AML.

Table 4: Case Study 1 from Money Laundering Risks Arising from Trafficking in Human Beings and Smuggling of Migrants (FATF 2011, p.31-32)

Case Study 1. Trafficking women from Eastern European countries for sexual exploitation – Organized criminal group - Use of Money Remitters and Bank accounts - Investments in real estate.

The investigation was focused on a criminal group that operated in different areas of Spain trafficking women from Eastern European Countries. The organized group was detected by two different sources, the police investigation and the FIU information.

The police investigation was focused on a group of people that were members of a criminal organized group dedicated to smuggling and trafficking women. The organized group was the owner of several "night clubs" in different cities of Spain where women were exploited. Part of the money obtained through that illegal activity was **sent abroad through money remittance companies in order to pay the debt of each woman**.

The basic characteristics of the operations carried out through money remitters were the following:

- There were sent small amounts of money.
- The money was sent by some women exploited to their countries.
- Recipients in the countries of destination were the same.
- Some senders and recipients of the transfers were included in FIU databases.

At the same time, the FIU was making the analysis of some information related to suspicious transaction reports referring to members of the same organized group. It was detected that several bank accounts of non-resident persons with different passports were opened in banks in Spain. It was also discovered that the holder of those bank accounts was the same person. The basic movements of those accounts were:

- High number of deposits of cash in small amounts (below identification requirements) is made in different regions of Spain.
- Transfers of those amounts of money to Eastern European countries.
- Some operations had the same recipients.

Also, there was previous information in FIU related to some of the investigated members of the organization that allegedly bought winning lottery tickets with cash to the real winners. There was information related to money transfers transactions too.

During the police investigation it was detected that front companies were also created, some of them with no real activity. Some properties were bought under the name of those companies and payments were made in cash.

It is also important to mention that cooperation with authorities of the countries of origin of women exploited was very useful and a joint police operation was conducted with those countries. The track of the funds allowed to arrest the members of the organization in the countries of origin and to confiscate properties and money obtained from that illegal activity.

Indicators detected in Spain, as country of destination of women exploited, were the following:

- Use of cash.
- Transfers through money remitters:
 - Transfers in small amounts.
 - Transfers from different regions to the same persons in other countries (origin country of women involved).
 - Transfers sent to many different people.
 - o Some recipients received money from different people.

- Lack of any licit business behind those operations.
- Operations through banks:
 - Use of false identity documents.
 - o Cash deposits in small amounts to avoid identification requirements.
 - o Cash deposits made in different regions of Spain.
 - o Transfers to the countries of victims.
 - Lack of any commercial activity behind those operations.
- Use of front companies to conceal the illicit origin of the funds.
- Buying winning lottery tickets.

The above case has fairly clear examples of account, customer, and transaction attributes that can be checked for electronically by transactional monitoring system.

For example, the following profile and transaction attributes grab the attention of the Eastern European financial intelligence unit (FIU):

 Transaction amounts, multiple workers sending money internationally to the same recipient, names showing up on the FIU watch list, structured cash deposits, and the destination for funds.

Similarly, indicators listed in the above Case Study as "detected in Spain" are also easily detected via a traditional transaction monitoring system.

FATF 2011 RED FLAG INDICATORS

The 2011 FATF provides a useful list of red flag indicators. These are organized by the origin and destination country of the exploited and further broken down by customer profile and transaction-based. Some of transaction-based indicators are specific to particular types of institutions, for example money service bureaus (MSBs) or casinos.

Overall, the number of Red Flag indicators listed in the 2011 FATF report totals 91. The distribution of red flag indicators is as follows:

Table 5: Number of 2011 FATF Red Flag Indicators by Type (FATF 2011, pp. 63-67)

	Origin Country	Destination Country
Customer Profile	7	11
Transaction-Based	27	46

Looking back at both the law enforcement and FIUs from the earlier case study, much of the suspicious activity is found in the list of red flag indicators.

There are far too many to list them all in this paper. Please refer to pages 63 through 67 of the July 2011 FATF report, *Money Laundering Risks Arising from Trafficking in Human Beings and Smuggling of Migrants*, to review all of them.

WHAT MAKES SOLVING THIS PROBLEM WELL SUITED FOR SAS® VISUAL INVESTIGATOR®?

SAS® Visual Investigator addresses a wide array of problems across many industries, from banking and financial services to government and health care. It is well-suited for surveillance, entity analytics, alert triage, and search and investigation. The presentation of data can be changed quickly from details to tabular to network to map to timeline views.

SAS® Visual Investigator is particularly well suited for any application needing to detect anomalies, suspicious behavior, and circumstances worthy of further analysis and investigation. It also provides you the ability to analyze, investigate, augment, and document investigation activities. Whether in business or information technology, it also empowers you to modify, extend, and enhance your application as your needs evolve.

Through rule authoring and model deployment, areas of interest are detected and surfaced for further scrutiny. Intelligence analysts triage, investigate, and disposition work items, with all activities being tracked and documented along the way. "Triaging" is generally quick and is when items of non-interest are closed or dismissed. The work items, or "Alerts," of greatest interest are monitored, enriched, documented, and sometimes promoted to a "Case." A Case is the result of an item or items of interest warranting further investigation, governance, or documentation. In some applications, this documentation, or dossier, is routed or filed with another party or even another organization.

SAS® Visual Investigator brings together capabilities that are traditionally found in multiple applications into a single interface. There are many components within SAS® Visual Investigator®.

SAS® VISUAL INVESTIGATOR COMPONENTS

Users of SAS® Visual Investigator are often referred to as "intelligence analysts." Components used by the intelligence analyst generally fit into the following categories:

- Surveillance provides rule authoring, model deployment, and simulation to detect anomalies, suspicious behavior, and circumstances worthy of further analysis and investigation.
- Alert Management prioritizes alerts and events, and routes alerts for prompt triage, investigation, and disposition. Investigation workspaces provide interactive work areas for exploring and analyzing data. "Insights" provide a means to collect and document a wide array of internal and external investigation artifacts like data, search results, images, and screenshots.
- Search and Investigate provides powerful search capabilities, including free text and geospatial search, filters and facets for refining results, and multiple "workspace" visualization options like data tables, network views, maps, and timelines.
- Entity Analytics applies network and entity generation processes to automatically build networks, resolve entities, and identify communities based on the latest data.

The latest release of SAS® Visual Investigator adds even more useful intelligence analyst tools such as the following:

- Text Analytics
- Mobile Investigator
- Transaction Networks
- Case Management including workflow

· Adaptive Learning

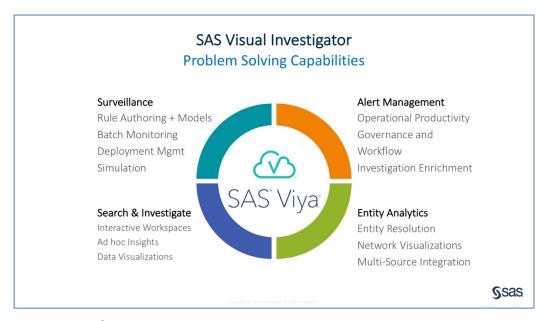


Figure 4: SAS® Visual Investigator capabilities as used by the intelligence analyst

CONCLUSION

Transaction monitoring in SAS® Visual Investigator can be extended to help detect potential human trafficking scenarios.

We've discussed THB and a number of domestic and international organizations who work to support victims of and reduce the amount of human trafficking. A large volume of papers is published that provide suggestions on how to detect THB. It is likely that you are already thinking about how the capabilities of SAS® Visual Investigator may help combat human trafficking.

Let's look at this problem through the THB red flag indicators, the eyes of an intelligence analyst, and capabilities of SAS® Visual Investigator®.

If you are running a transaction monitoring system, such as SAS® Anti-Money Laundering, you are already processing and detecting suspicious behavior using account and customer profile information, as well as transactions. Conveniently, the 2011 FATF red flag indicators are organized by profile and transaction attributes.

If you are already conducting transaction monitoring through SAS® Visual Investigator®, the following components allow you to extend your system to additionally detect potential human trafficking efforts:

- Scenario Administrator via the Scenario Administrator component, rules can be extended or duplicated and modified to detect THB.
 - Using 2011 FATF red flag indicators.
 - Looking at business lines and geographical locations.
 - Cash intensive businesses.
 - Funnel accounts.

- Low amount high volume deposits.
- Frequent transfer to at-risk locations.
- Cash in predominantly non-cash businesses.
- Excessive use of money orders.
- Business accounts with no legitimate business activity.
- Employees with the same address or paying rent to the same holding company.
- Consolidation accounts.
- Lack of any form of government ID.
- Names on FIU watch lists.
- Alert Strategies with existing transactional monitoring strategies in place, an additional strategy and queues can be created to manage alerts generated specific to THB detection rules.
- Workspace views Workspaces provide a means to view information in different ways. Some of the THB indicators lend themselves nicely to the following views:
 - Network view a significant number of indicators involve relationships amongst multiple parties.
 - Transaction view a significant number of indicators involve the movement of funds amongst accounts.
 - Map view geolocation is an important aspect of some red flag indicators.
- Mobile Investigator analysts and investigators are now able to view and update investigatory information from their mobile phone.
- Adaptive Learning SAS® Visual Investigator's® adaptive learning component SAS® Adaptive Learning and Intelligent Agent System (ALIAS) learns from analyst's investigations to make the alert generation process more accurate and more up-to-date as trends change.

REFERENCES

Anthony, Brittany. 2017. *The Typology of Modern Slavery: Defining Sex and Labor Trafficking in the United States*. Polaris Project. Available https://polarisproject.org/typology.

Bales, Kevin. "The Number." The CNN Freedom Project Ending Modern Day Slavery. Accessed September 5, 2017, http://thecnnfreedomproject.blogs.cnn.com/category/the-facts/the-number/.

Crowe, Sara and Gredzinski, Kurt E. and MacKillop, Barry (panel) moderated by Clark, David. "How AML Professionals Can Combat Human Trafficking." ACAMS AML & Financial Crime Conference, Hollywood, Florida. Presented April 11, 2018.

Financial Action Task Force/Groupe d'action financière (FATF/GAFI). July 2011. Money Laundering Risks Arising from Trafficking in Human Beings and Smuggling of Migrants. FATF/OECD. Available http://www.fatf-gafi.org/media/fatf/documents/reports/Trafficking in Human Beings and Smuggling of Migrants.pdf.

Polaris Project. Accessed March 27, 2019. https://polarisproject.org/.

U.S. Department of Homeland Security (DHS). "Human Trafficking 101 Information Sheet." Accessed March 2019a. Available https://www.dhs.gov/sites/default/files/publications/blue-campaign/materials/infosheet-human-trafficking-101/bc-infosheet-human-trafficking-101-english.pdf.

U.S. Department of Homeland Security (DHS). "What is Human Trafficking?" The Blue Campaign. Accessed March 2019b. https://www.dhs.gov/blue-campaign.

United Nations Office on Drugs and Crime (UNODC). 2012. *Global Report on Trafficking in Persons*. Available https://www.unodc.org/documents/data-and-analysis/glotip/Trafficking in Persons 2012 web.pdf.

United Nations Office on Drugs and Crime (UNODC). 2010. *Issue Paper: Organized crime involvement in trafficking in persons and smuggling of migrants*. Available https://www.unodc.org/documents/human-trafficking/FINAL_REPORT_06052010_1.pdf.

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Finally, I'd like to thank Jennifer, Isabelle, and Leo for their support and thanks to you for taking interest in this paper.

ACRONYMS AND TERMS

Table 6: Table of Acronyms and Terms

Acronym	Meaning
ACAMS	Association of Certified Anti-Money Laundering Specialists
ALIAS	Adaptive Learning and Intelligent Agent System
AML	Anti-money Laundering
Blue Campaign	The U.S. Department of Homeland Security's program for combatting THB
DHS	Department of Homeland Security
FATF	Financial Action Task Force
FATF/GAFI	Both English and French acronyms for Financial Action Task Force are often used together in this form
FIU	Financial Intelligence Unit
GAFI	French name for FATF, or Groupe d'action financière
MSB	Money Service Bureau
Polaris	A non-profit organization focusing on assisting victims, preventing, and accumulating data regarding THB
SOM	Smuggling of Migrants
ТНВ	Trafficking in Human Beings
Typology of Modern Slavery	Polaris' document defining categories of sex and labor trafficking in the United States
UNODC	United Nations Office on Drugs and Crime

RECOMMENDED READING

BOOKS AND PAPERS

- Hidden in Plain Sight: America's Slaves of the New Millennium, Kimberly Mehlman-Orozco (2017, Praeger)
- Human Trafficking: Applying Research, Theory, and Case Studies, Noel B. Busch-Armendariz, Maura B. Nsonwu, and Laurie C. Heffron (2017, SAGE Publications)
- Human Trafficking: A Global Perspective, Louise Shelley (2010, Cambridge University Press)
- Migration, Prostitution and Human Trafficking: The Voice of Chinese Women, Min Liu (2017 Routledge)
- The Typology of Modern Slavery: Defining Sex and Labor Trafficking in the Unites States, Brittany Anthony, Jennifer Kimball Penrose, and Sarah Jakiel (March 2017, The Polaris Project)

THB URLS OF INTEREST

Financial Action Task Force: ML Risks Arising from Trafficking in Human Beings

https://goo.gl/gxwJ3q

- The Polaris Project: Typology of Modern Slavery

 https://polarisproject.org/typology
- The U.S. Department of Homeland Security Human Trafficking http://www.dhs.gov/humantrafficking
- The U.S. Department of Homeland Security Blue Campaign <u>— https://www.dhs.gov/blue-campaign</u>

SAS URLS OF INTEREST

- SAS® Anti-Money Laundering https://www.sas.com/en_us/industry/banking/anti-money-laundering.html
- Machine learning https://www.sas.com/en_us/insights/analytics/machine-learning.html
- SAS® Text Miner https://www.sas.com/en_us/software/analytics/text-miner.html
- SAS® Viya® https://www.sas.com/en_us/software/viya.html
- SAS® Visual Investigator https://www.sas.com/en_us/software/intelligence-analytics-visual-investigator.html

USER-FACING SAS VISUAL INVESTIGATOR DOCUMENTATION

I recommend the following exceptional SAS publications:

- SAS® Visual Investigator 10.5: Getting Started
- SAS® Visual Investigator 10.5: Administrator's Guide
- SAS[®] Visual Investigator 10.5: User's Guide
- SAS® Visual Investigator 10.5: Using the Scenario Administrator
- SAS[®] Visual Investigator 10.5: What's New

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