Identifying Victims of Human Sex Trafficking in Online Ads

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INTRODUCTION

Trafficking humans for sexual exploitation is a fast-growing criminal enterprise even though international law and the laws of 158 countries criminalize sex trafficking (Equality Now, 2017). The Equality Now (2017) *Sex Trafficking Fact Sheet* lists these statistics:

- Sex trafficking is a lucrative industry that makes an estimated US$99 billion a year.
- About two million children are exploited every year in the global commercial sex trade.
- Women and girls make up 96 percent of victims of trafficking for sexual exploitation.

Further, human trafficking is not just a third or developing world problem. The National Human Trafficking Resource Center hotline lists 5784 human sex trafficking cases reported in the United States during 2016 (NHTRC, 2018a). Additionally, the National Human Trafficking Resource Center has reported that California had 1050 of these cases (NHTRC, 2018). (Note that this chapter and research uses a sample set from California, United States and so statistics, policies, and laws used in this chapter are focused on this region)

The U.S. Government defines human trafficking as inducing others to perform a commercial sex act by force, fraud, or coercion; as inducing a person under 18 years of age for such an act; and/or as recruiting, harboring, transporting, providing, obtaining a person for labor or services through the use of force, fraud, or coercion in order to subject them to involuntary servitude, peonage, debt bondage, or slavery (National Institute of Justice, 2012). However, the Department of Homeland Security (DHS) has more recently shortened the definition of human trafficking to a contemporary form of slavery that

involves the illegal trade of people for exploitation or commercial gain (Department of Homeland Security, 2014). Further clarifying this definition, California's Department of Justice (DOJ) has stated that human trafficking is a contemporary form of slavery that involves controlling a person through force, fraud, or coercion to exploit the victim for forced labor, sexual exploitation, or both (Harris, 2012). While slightly different, all three definitions are similar in context. However, for this paper, we use California's DOJ's definition but note that two classes of human sex trafficking exist: those for victims under 18 (minors) and those for 18 or over.

In this paper, we focus on the sex trafficking aspect of human trafficking and propose an information systems approach to identify sex trafficking victims based on analyzing online (Internet) ads. We focus on online ads because social media and the interactive Web have enabled traffickers to lure victims and sell them at a faster rate and in greater safety than ever before. However, these same tools have also created new avenues for prosecution and criminal investigations for law enforcement as officials now have access to a vast amount of information about the sex industry. We use system development methodology from action research (Nunamaker, Chen, & Purdin, 1990; Burstein & Gregor, 1999) with a knowledge management strategy approach of identifying actionable intelligence (i.e., identifying victims of human sex trafficking) by applying a set of strong filters based on an ontology of keywords that codifies attributes of human sex trafficking victims to assess an unstructured dataset consisting of the text from online ads scraped from the women looking for men section of backpage.com.

Specifically, we address the following research question:

RQ: Can one use online data to identify victims of human sex trafficking?

To answer this question, we created a prototype to explore text-based indicators of human trafficking in online classified ads (see section 4.1 for a list of these terms). In particular, we created the prototype to:

- Create an ontology/keyword list of terms and/or attributes that may indicate human trafficking
- Create a process for extracting an unstructured text dataset from online advertising, and
- Use the keyword ontology to construct strong filters that can be applied to the unstructured dataset to determine ads that create actionable intelligence on identifying victims of human sex trafficking.

Additionally, during the study of keywords in online ads we discovered that emojis were being used in lieu of keywords leading to the addition of the following purpose for the final prototype (see section 5.2.2 for the emojis identified as being used in human sex trafficking):

- Add emojis to the keyword ontology and use them to construct strong filters that can be applied to the unstructured dataset to determine ads that create actionable intelligence on identifying victims of human sex trafficking.

The prototype we created utilized: Strong filters that combined knowledge/experience-driven ontologies of keywords and emojis that modeled human sex trafficking victims

- A process for updating the ontology
- A process for extracting an unstructured dataset of online ads, and
- A process for analyzing the unstructured dataset using evaluation criteria for determining what ads are actionable

Technologies in the prototype included ontologies, machine learning, text mining, and Web scrapers.

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