

Human Trafficking in the Global Supply Chain: Using Machine Learning to Understand Corporate Disclosures Under the UK Modern Slavery Act*

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ABSTRACT

This Article applies machine learning techniques to international human rights law and corporate reporting. Specifically, it proposes a new methodological framework to analyze how businesses interpret statutory compliance and respond to statutory ambiguity in the context of mandatory corporate disclosures on human trafficking in the global supply chain.

The Article focuses on the United Kingdom's Modern Slavery Act ("MSA") 2015, which requires companies to disclose publicly the risks of human trafficking in their supply chains. While the MSA does not specify clear reporting standards, it seeks to reduce trafficking by creating accountability in the court of "public opinion" through disclosure. The Article tests the utility of this approach by applying advanced machine learning techniques (i.e., natural language processing) to a proprietary dataset created by the Authors of over 17,000 MSA statements released by companies between 2016 and 2019. The analysis reveals that compliance with the statutory mandate is limited and that other aspects of the statute are not uniformly interpreted. Many companies also "anchor" their statements in broader human rights language and emphasize engagement by senior company leaders in an effort to bolster their social reputations. More rigorous enforcement and clearer reporting standards thus are needed to strengthen the MSA and similar reporting laws in other jurisdictions in order to achieve the statutory purpose of redressing human trafficking in the global supply chain.

* Both Authors contributed to this Article. Their names appear in alphabetical order. The Authors are indebted to Christian Hicks, whose expertise was critical for pre-processing and organizing the data used for the large-scale analysis in this Article. The Authors are also grateful for thoughtful feedback during the 2021 Symposium "Ethical Leadership and Legal Strategies for Post-2020 Organizations," hosted by the Tobias Leadership Center at Indiana University, the Center for Legal Studies & Business Ethics in the Spears School of Business at Oklahoma State University, and the American Business Law Journal. Financial support for this project was provided by the Babson Faculty Research Fund, the Weissman Scholars Program at Babson College, and the Zaring Family Foundation.

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INTRODUCTION

The earliest recorded use of human beings as forced laborers in industrial production dates back to ancient Mesopotamia in 4000 BCE, where slaves who were captured through military conquest or who were punished for criminal offenses or rebellion were utilized for agriculture, food production, and mining.¹ Six millennia later, the International Labour Organization estimates that some twenty-five million people² toil daily in various forms of compulsory or forced labor.³ Sixteen million are victims in the private sector, with another 4.8 million (mostly women and children) enslaved through sexual exploitation and another 4.1 million forced to labor by government authorities.⁴ Modern slavery⁵ is a worldwide problem—nearly half of the approximately USD\$150 billion in annual profits from the global slavery industry derives from forced labor in industrialized countries.⁶ Because numerous international treaties require signatories to treat slavery as a criminal offense,⁷ criminal penalties apply under the United Kingdom’s Modern Slavery Act 2015 (“MSA”)⁸ and the laws of other countries such as the United States.⁹

1. See ALEXIS A. ARONOWITZ, *HUMAN TRAFFICKING: A REFERENCE HANDBOOK* 4, 359 (2017).

2. The scale of the problem of modern slavery and human trafficking is massive. To compare with an historic example, approximately 9.5 million people—“essential to all aspects of the New World economies”—were trafficked (i.e., captured and shipped) from Africa to the Western Hemisphere over a five-century period from the 1400s until the last national holdout, Brazil, formally outlawed slavery in 1888. See Karen E. Bravo, *The Role of the Transatlantic Slave Trade in Contemporary Anti-Human Trafficking Discourse*, 9 SEATTLE J. SOC. JUST. 555, 561 (2011).

3. Int’l Lab. Org., *Global Estimates of Modern Slavery: Forced Labour and Forced Marriage* 9, INT’L LAB. ORG. (Sept. 19, 2017), https://www.ilo.org/wcmsp5/groups/public/-dgreports/-dcomm/documents/publication/wcms_575479.pdf. [<https://perma.cc/VQ3E-JARW>].

4. The plight of the additional fifteen million persons—mostly women—in marriages to which they did not consent is outside the scope of the present writing. *Id.* at 10.

5. Scholars have noted some challenges in defining modern slavery with precision. See, e.g., Janie Chuang, *Exploitation Creep and the Unmaking of Human Trafficking Law*, 180 AM. J. INT’L L. 609, 628 (2014) (describing modern slavery as an “elastic and undefined term” that encompasses a broad range of exploitative behaviors).

6. Int’l Lab. Org., *Profits and Poverty: The Economics of Forced Labour* 13, INT’L LAB. ORG. (May 20, 2014), https://ec.europa.eu/anti-trafficking/document/download/6710365c-e01b-49dd-813e-56aac62c4d1d_en. [perma.cc/SC4C-83DU]

7. The anti-slavery “Palermo Protocol” supplemented a broader set of international agreements on transnational crimes. See Palermo Protocol, Protocol to Prevent, Suppress and Punish Trafficking in Persons Especially Women and Children, Supplementing the United Nations Convention against Transnational Organized Crime, Annex II, G.A. Res. 55/25, U.N. Doc. A/55/383, Nov. 15, 2000, 2237 U.N.T.S. 319.

8. United Kingdom Modern Slavery Act 2015, c. 30, § 54, (UK), http://www.legislation.gov.uk/ukpga/2015/30/pdfs/ukpga_20150030_en.pdf [hereinafter MSA 2015].

9. See Forced Labor Act, 18 U.S.C. § 1589 (2012). See also U.S. CONST. amend. XIII, § 1 (“Neither slavery nor involuntary servitude, except as a punishment for crime whereof the party shall have been duly convicted, shall exist within the United States, or any place subject to their jurisdiction.”).

The MSA covers a broad range of related conduct, including slavery,¹⁰ servitude,¹¹ forced or compulsory labor,¹² and human trafficking.¹³ Slavery, servitude, and forced or compulsory labor all focus on abusive work conditions, whereas trafficking involves the movement of persons (often across international borders) to place or keep people in such conditions.¹⁴ Nearly half of the sixteen million forced laborers fall into debt bondage,¹⁵ with the figure rising to 70% in manufacturing, agriculture, or domestic work.¹⁶

The MSA requires companies over a certain size doing business in the UK to disclose publicly the risks of human trafficking in their supply chains and to report on what (if anything) they do to address those risks.¹⁷ As discussed below, reporting standards are not specified by the law.¹⁸ Statements submitted under the MSA, therefore, could be a rich source of information about how companies interpret statutory mandates and reporting ambiguity under the MSA. The large volume of company-generated text data, however, is difficult to process by humans. Machine learning—particularly the advanced Natural Language Processing (“NLP”) techniques adopted here—can be a powerful tool with which to analyze the large volume of information generated pursuant to a statutory reporting mandate.¹⁹

10. Defined as “the status or condition of a person over whom any or all of the powers attaching to the right of ownership are exercised.” See Slavery Convention art. 1(1), Sept. 25, 1926, 212 U.N.T.S. 17.

11. Defined as “the obligation to provide services that is imposed by the use of coercion and includes the obligation for a ‘serf’ to live on another person’s property and the impossibility of changing his or her condition.” *Transparency in Supply Chains etc. A practical guide—Guidance issued under section 54(9) of the Modern Slavery Act 17*, UNITED KINGDOM HOME SECRETARY (2015) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/649906/Transparency_in_Supply_Chains_A_Practical_Guide_2017.pdf [hereinafter MSA Practical Guidance].

12. Defined as “all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily.” See Convention (No. 29) Concerning Forced or Compulsory Labour art. 2(1), June 28, 1930, 39 U.N.T.S. 55.

13. See MSA Practical Guidance, *supra* note 11, at 17.

14. See Palermo Protocol, *supra* note 7, art. 3(a) (defining trafficking as “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”).

15. Defined as “the status or condition arising from a pledge by a debtor of his personal services or of those of a person under his control as security for a debt, if the value of those services as reasonably assessed is not applied towards the liquidation of the debt or the length and nature of those services are not respectively limited and defined.” See Supplementary Convention on the Abolition of Slavery, the Slave Trade, and Institutions and Practices Similar to Slavery art. 1(a), Sept. 7, 1956, 266 U.N.T.S. 3.

16. See Int’l Lab. Org., *supra* note 3, at 10–11.

17. See MSA 2015, *supra* note 8, §§ 54(2), (4).

18. *Id.* at § 54(5).

19. First proposed by computer scientist Alan Turing in the 1950s, machine learning “describes the process through which computers can learn without continued human input.” Spencer McManus, *Machine Learning and Fintech*, 1 GEO. L. TECH. REV. 428, 428 (2017). For more on the use of data analytics as a way to analyze large volumes of text, see generally Jeremy Rose & Christian Lernerholt, *Low Cost Text Mining as a Strategy for Qualitative Researchers*, 15 J. BUS. RSCH. METH. 2 (2017); GREGOR WIEDEMANN, TEXT MINING FOR QUALITATIVE DATA ANALYSIS IN THE SOCIAL SCIENCES (2016); Lawrence Ampofo, Simon Collister, Ben O’Loughlin & Andrew Chadwick, *Text Mining and*

NLP blends “computer science, artificial intelligence, and computational linguistics” to bridge the binary if/then and yes/no logic statements of computing with the natural language processes of human speech to ascertain what the speaker said and meant by a particular statement.²⁰ NLP actually refers to a wide variety of computing techniques “that allow machines to extract information from text or speech.”²¹ Based on proprietary algorithms, specific applications of NLP are patentable processes, leading to a variety of analytic tools suitable for different purposes and contexts.²² In the legal context, for example, NLP powers electronic legal research tools such as Westlaw and LEXIS²³ that help lawyers to find relevant materials and to understand the meaning of language reflected in case law, statutes, regulations, and the like.²⁴

This Article applies machine learning and NLP to make two unique contributions. First, it contributes to the dialogue about how companies address human trafficking in the global business supply chain by considering these questions at a completely different scale than prior efforts. Our findings derive from a large-scale data analysis of over 17,000 MSA statements released by companies between 2016 and 2019. Most research regarding the MSA has generally involved the manual study of one hundred statements or fewer. For example, many studies by anti-trafficking NGOs often are limited in scope (e.g., a preliminary study of one hundred companies after the MSA’s first year,²⁵ or a later sample of thirty companies²⁶), focused

Social Media: When Quantitative Meets Qualitative and Software Meets People, in INNOVATIONS IN DIGITAL RESEARCH METHODS 161 (Peter Halfpenny, Rob Proctor eds., 2015).

20. See Peng Lai “Perry” Li, *Natural Language Processing*, 1 GEO. L. TECH. REV. 98, 98–99 (2016).

21. See Kevin Casey, *How to Explain Natural Language Processing (NLP) in Plain English*, THE ENTERPRISERS PROJECT (Sept. 17, 2019), <https://enterpriseproject.com/article/2019/9/natural-language-processing-nlp-explained-plain-english?page=0%2C0> [perma.cc/V29P-G6V7].

22. See, e.g., *Word to Info Inc. v. Facebook Inc.*, No. 15-CV-03485-WHO, 2016 WL 3690577, at *2 (N.D. Cal. July 12, 2016) (“Markman” hearing relating to claim construction of seven patented NLP processes), *aff’d sub nom Word to Info, Inc. v. Facebook Inc.*, 700 F. App’x 1007 (Fed. Cir. 2017); *Word to Info Inc. v. Google Inc.*, No. 15-CV-03486-WHO, 2016 WL 3692198, at *1 (N.D. Cal. July 12, 2016) (same); separate infringement case involving the same seven patents).

23. See, e.g., Paul D. Callister, *Law, Artificial Intelligence, and Natural Language Processing: A Funny Thing Happened on the Way to My Search Results*, 112 L. LIBR. J. 161 (2020). For discussion of the wider legal implications of NLP, see, e.g., Frank Fagan, *Natural Language Processing for Lawyers and Judges*, 119 MICH. L. REV. 1399 (2021).

24. At a deeper level—outside the scope of the present writing—deriving specific meanings from language is the fundamental core of all forms of legal analysis, regardless of methodology or subject matter. See, e.g., William N. Eskridge Jr., Brian G. Slocum & Stefan Th. Gries, *The Meaning of Sex: Dynamic Words, Novel Applications, and Original Public Meaning*, 119 MICH. L. REV. 1503 (2021) (considering how a variety of linguistic interpretive methodologies apply to recent Supreme Court decisions holding that the meaning of the term “sex” under anti-discrimination provisions of Title VII of the Civil Rights Act of 1964 encompassed lesbians, gay men, transgender persons, and other sexual and gender minorities).

25. See Quintin Lake et al., *Corporate Leadership on Modern Slavery*, THE ETHICAL TRADING INITIATIVE (ETI) & HULT INTERNATIONAL BUSINESS SCHOOL (2016), https://www.ethicaltrade.org/sites/default/files/shared_resources/corporate_leadership_on_modern_slavery_full_report_2016.pdf [https://perma.cc/2XYP-53AS].

on certain subsets of reporting companies (e.g., the UK FTSE 100),²⁷ or linked only to certain industries (e.g., three retail companies,²⁸ or ninety-seven statements from the finance sector²⁹).

The methodology here is different in both scope and focus because it uses NLP to consider a massive volume of MSA statements simultaneously. This methodology may prove particularly useful for revealing and understanding wider truths about the intersection of business, legal, and social priorities in the commercial realm. Analyses of large data sets derived from official filings certainly have proven helpful for analyzing other issues linked to social responsibility in other contexts—for example, considering racial and gender parity in government grants of patent applications.³⁰

Second, the Article outlines an approach for applying machine learning in the legal context in order to help stakeholders better understand how companies respond to human rights reporting mandates (or other laws) where the reporting requirements are less rigorous or are subject to interpretation. Such insights can help illuminate how these laws actually work in practice. This in turn enables legislators and regulators to improve their effectiveness, and allows for other stakeholders, such as NGOs and consumers, to work to encourage such improvements. For example, a machine learning approach could help explore how companies interpret the open reporting mandates, differences and common practices in the types of information disclosed, key corporate personnel involved in anti-trafficking initiatives, and similar matters.

The approach here uses machine learning methods to analyze the results of a statutory mandate. The Authors used topic modeling, an NLP technique, to extract themes from company-generated text and to provide a broader understanding of how companies interpret the MSA.³¹ Topic mod-

26. See, e.g., Int'l Corp. Accountability Roundtable & Focus on Lab. Exploitation, *Full Disclosure: Towards Better Modern Slavery Reporting* (2019), <https://humanrights.wbcd.org/project/full-disclosure-towards-better-modern-slavery-reporting/> [<https://perma.cc/8577-ZVNT>] (discussing a manual review of the merits of thirty MSA statements).

27. See, e.g., 2020/2021 Benchmark, KNOWTHECHAIN (2018), <https://knowthechain.org/benchmark> [<https://perma.cc/X3NZ-G8EU>]; Business & Human Rights Resource Centre, *First Year of FTSE 100 Reports under the UK Modern Slavery Act: Towards Elimination?* (2017), <https://www.business-humanrights.org/en/first-year-of-ftse-100-reports-under-the-uk-modern-slavery-act-towards-elimination> [<https://perma.cc/J9C8-UAPC>] (statements from the one hundred firms comprising the FTSE 100).

28. See, e.g., Ilse A. Ras & Christiana Gregoriou, *The Quest to End Modern Slavery: Metaphors in Corporate Modern Slavery Statements*, 13 ANTI-TRAFFICKING REV. 100, 104 (2019) (providing deep textual analysis of three companies' statements).

29. See, e.g., *Beyond Compliance in the Finance Sector: A Review of Statements Produced by Asset Managers Under the UK Modern Slavery Act*, WALK FREE, <https://www.walkfree.org/reports/beyond-compliance-in-the-finance-sector/> [<https://perma.cc/9Y17-V562>] (analyzing ninety-seven MSA statements from the finance industry).

30. See W. Michael Schuster, R. Evan Davis, Kourtenay Schley & Julie Ravenscraft, *An Empirical Study of Patent Grant Rates as a Function of Race and Gender*, 57 AM. BUS. L. J. 281 (2020).

31. See, e.g., David M. Blei, Andrew Y. Ng & Michael I. Jordan, *Latent Dirichlet Allocation*, J. MACH. LEARNING RSCH. 993 (2003) (proposing the foundational topic modeling framework as well as a methodology for extracting the topics from a corpus of text).

eling identifies “patterns of linguistic similarity” (sequences of words that convey similar meaning) by “disassembl[ing] texts into recurring verbal patterns” for analysis.³² The technique thus infers how documents are comprised of topics and how topics are comprised of words. It has been used in numerous applications ranging from social and political science³³ to technological forecasting³⁴ to shifts in constitutional law.³⁵

Topic modeling is an “unsupervised” learning technique—it does not require “training” or predefined tags and topic labels that have been previously verified by humans.³⁶ Instead, the algorithm derives them from the text corpus provided for analysis. Topic modeling algorithms treat every document as a “bag of words.” Based on frequencies of occurrence and co-occurrence of different words (or, more generally, terms) across the text corpus consisting of all documents, topic modeling algorithms then extract information about the expected prevalence of groupings of terms, or “topics,” within each document. Each term in the corpus can be part of multiple topics, but with different probability. Similarly, each document in the corpus can be a collection of any of the topics, possibly with different prevalence of each topic. For example, the co-occurrence of the terms “supplier,” “business_integrity,” “compliance,” “risk,” and “code_of_conduct” could indicate a topic related to compliance and code of conduct. At the same time, the terms “supplier” and “risk” could appear in a different grouping (“supplier,” “enforce,” “mitigate,” “risk,” “systems_and_controls”), which could indicate a topic related to risk management and supplier review. A document could contain both of these topics, but it is possible that in some documents the topics are talked about more than in others, meaning that their prevalence is higher.³⁷

32. See David S. Law, *The Global Language of Human Rights: A Computational Linguistic Analysis*, 12 LAW & ETHICS HUM. RTS. 111, 111 (2018). The process facilitates analysis of the frequency and content of “topic clusters”—groups of words of similar or related content. See Aaron-Andrew P. Bruhl & Adam Feldman, *Separating Amicus Wheat from Chaff*, 106 GEO. L.J. ONLINE 135, 147 (2017).

33. See, e.g., Christopher Lucas et al., *Computer-Assisted Text Analysis for Comparative Politics*, 23 POL. ANALYSIS 254 (2015) (reviewing uses of topic modeling in politics such as analysis of speeches made by politicians to understand internal political workings of governments, documents to infer policy positions of political parties, and newspaper articles to assess the degree of media freedom and infer relationships between politicians and groups within a country).

34. Sinan Erzurumlu & Dessislava Pachamanova, *Topic Modeling and Technology Forecasting for Assessing the Commercial Viability of Healthcare Innovations*, 156 TECH. FORECASTING & SOC. CHANGE (2020) (proposing using topic modeling of texts of invention descriptions in combination with advanced statistical techniques to assess the likelihood that a new invention will be commercialized, and tests the framework on healthcare innovations data from a large innovation management center).

35. See, e.g., Daniel Taylor Young, *How Do You Measure a Constitutional Moment? Using Algorithmic Topic Modeling to Evaluate Bruce Ackerman’s Theory of Constitutional Change*, 122 YALE L.J. 1990 (2013) (analyzing 19,000 pages of text from U.S. newspapers published between 1866 and 1884 to illuminate constitutional discourse during this period).

36. See generally Blei, Ng & Jordan, *supra* note 31.

37. For additional details on machine learning and topic modelling approaches, see generally ANDREAS C. MÜLLER & SARAH GUIDO, *INTRODUCTION TO MACHINE LEARNING WITH PYTHON: A GUIDE FOR DATA SCIENTISTS* (2016) and CHRISTOPHER M. BISHOP, *PATTERN RECOGNITION AND MACHINE LEARNING* (2006).

The topics (i.e., the list of terms in each grouping and their associated expected probabilities in that topic) and the expected prevalence of topics in each document are an output of the algorithm. Humans then interpret the meaning of the topics derived by the algorithm.

Using unsupervised learning algorithms is helpful for obtaining an understanding of a large text corpus at a low cost, without initial human involvement. A different approach is to “supervise,” or guide an algorithm in discovering topics of interest in a corpus. If the topics are well understood and defined by humans in advance, this “supervised learning” approach has the potential to produce more reliable, targeted results. “Guided” text analysis and advanced visualizations were, therefore, used by the Authors in addition to unsupervised topic modeling analysis to delve deeper into how companies cover specific concepts in their statements and to make observations about corporate leadership engagement.³⁸ In particular, the guided large-scale analysis performed in this study facilitates understanding of the corporate response to the MSA along three dimensions: (1) statutory compliance and interpretation of the statutory mandate; (2) engagement of corporate leadership; and (3) reputation enhancement beyond compliance in the form of broader communications. Because “[o]ne picture can replace a thousand words of legal discourse,”³⁹ some results are displayed graphically or in tabular form. For example, some information (e.g., involvement of senior management or presence of concept groupings in statements) appears in “spider” charts, also known as “radial” or “web” charts. These charts show multiple variables simultaneously, much like spokes on a wheel.⁴⁰ “The distinctive feature about the spider chart is that it can enable a general comparison of all metrics[,]” making it easy to identify visually strong differences in involvement of certain types of senior company leaders or in emphasis on particular concepts in MSA statements.⁴¹

This analysis leads to a number of important findings. Legislators and human rights lawyers should be aware, for example, that only three out of five companies are complying with the obligation to ensure that their MSA statements are appropriately created and endorsed by their board of direc-

38. Further details on the analytic approach appear in the Technical Appendix, *infra*.

39. See Michael D. Murray, *Visual Rhetoric: Topics of Invention and Arrangement and Tropes of Style*, 21 LEGAL WRITING: J. LEGAL WRITING INST. 185, 185 (2016) (citing Rebecca Tushnet, *Worth A Thousand Words: The Images of Copyright*, 125 HARV. L. REV. 683 (2012)). See also Maya Berinzon & Ryan C. Briggs, *Legal Families Without the Laws: The Fading of Colonial Law in French West Africa*, 64 AM. J. COMP. L. 329, 370 (2016) (noting that graphics help readers “to interpret the entirety of the data using a single image”).

40. See, e.g., *What is Radar (Spider/Web/Polar Bar) Chart?*, FUSIONCHARTS, <https://www.fusioncharts.com/resources/chart-primers/radar-chart> [<https://perma.cc/8KR3-AZ38>] (discussing an exemplar spider chart that displays simultaneously eight aspects of beer selection—sourness, bitterness, sweetness, saltiness, yeast, hop, malt, and special grain).

41. See *Spider Graph*, THINK DESIGN, <https://think.design/services/data-visualization-data-design/spider-graph/> [<https://perma.cc/FQ4P-M5PJ>].

tors. They also should temper their expectations on what the statements can achieve, in that companies tended mostly to talk about policies and procedures and codes of conduct as they exist on paper, instead of engaging in due diligence and other measures intended to implement and enforce those policies throughout the supply chain. They also appear to go beyond the compliance mandates in their MSA reporting, taking the opportunity to use the statements as an opportunity to signal positive commitments to human rights and related concepts, enhancing their corporate reputations in the process.

The rest of this Article is organized as follows. Part I sets the stage by discussing the MSA's requirements and considering the limitations and drawbacks of its disclosure approach. Part II discusses the wider implications of MSA statements, where such disclosures not only document statutory compliance, but also provide the opportunity to make important statements that can positively influence corporate reputations. Part III describes in more detail the analytic framework used to evaluate corporate responses to the MSA along the three dimensions noted above. Part IV summarizes and assesses the findings. Part V provides concluding remarks about the implications for the MSA and similar disclosure laws in other jurisdictions, guidance on how NLP techniques can serve as a useful feedback mechanism for legislators and other stakeholders, and suggestions for future research. Finally, the Technical Appendix provides more specific details about the unique dataset created for this project, including the process of data assembly, cleaning and coding, applying machine learning techniques, and interpreting the results.

I. HUMAN TRAFFICKING AND THE GLOBAL BUSINESS SUPPLY CHAIN

Human trafficking unfortunately intersects in many places with many legitimate business activities, such as procuring workforce labor, the production and movement of goods and services, and financial transactions.⁴² Under the MSA, human trafficking occurs when a “person arranges or facilitates the travel of another person (“V”) with a view to V being exploited” through the commission of a criminal offense involving slavery, servitude and forced or compulsory labor.⁴³ The crime is deemed committed when either “(a) the person holds another person in slavery or servitude and the circumstances are such that the person knows or ought to know that the other person is held in slavery or servitude, or (b) the person requires another person to perform forced or compulsory labour and the circumstances

42. See, e.g., Louise Shelley & Christina Bain, *Human Trafficking: Fighting the Illicit Economy with the Legitimate Economy*, 3 SOC. INCLUSION 140, 140 (2015) (discussing as examples the intersection of human trafficking with the finance, technology, and travel and tourism industries).

43. See MSA 2015, *supra* note 8, § 2(1).

are such that the person knows or ought to know that the other person is being required to perform forced or compulsory labour.”⁴⁴

These concerns are exacerbated as the labor supply chain becomes more complex and subcontracting becomes more common. The U.S. chocolatier Hershey, for example, faced considerable negative press when overseas students participating in an educational work and travel program found themselves engaged in heavy manual labor at a packing facility in Pennsylvania.⁴⁵ The program had been arranged by a staffing subcontractor of the Hershey’s logistics subcontractor that ran the warehouse, with help from a student educational travel nonprofit, all of whom eventually contributed to a settlement of over USD\$200,000 in back wages and fines.⁴⁶ It is not only a business entity’s own decisions—but those of the company it keeps throughout its supply chain—that present risks of human trafficking.

II. THE UK MODERN SLAVERY ACT 2015

A. *Background*

The UK MSA takes a broad approach to addressing modern slavery and human trafficking by criminalizing the offense and related behavior,⁴⁷ providing for stiff penalties and asset forfeiture,⁴⁸ authorizing prevention and risk mitigation orders,⁴⁹ creating specialized enforcement agencies,⁵⁰ and providing for victim protection.⁵¹ Its genesis was a series of cases in the European Court of Human Rights that focused on trafficking as a serious human rights violation, as well as related NGO pressure to update the UK’s laws to punish wrongdoers and protect victims.⁵²

Because human trafficking can infect all parts of the corporate supply chain, the MSA recognizes that businesses also have a core “responsibility to ensure that workers are not being exploited, that they are safe and that relevant employment (include wage and work hour), health and safety and human rights laws and international standards are adhered to, including freedom of movement and communications.”⁵³ Under the MSA, companies

44. *Id.* at § 1.

45. See Julia Preston, *Pleas Unheeded as Students’ U.S. Jobs Sour*, N.Y. TIMES, (Oct. 16, 2011), <https://www.nytimes.com/2011/10/17/us/hershey-foreign-exchange-students-pleas-were-ignored.html>. [<https://perma.cc/F6FC-ZYWZ>].

46. Dave Jamieson, *Hershey Student Guest Workers Win \$200,000 in Back Pay After Claims of Abusive Conditions*, HUFFINGTON POST, (Nov. 14, 2021), https://www.huffpost.com/entry/hershey-student-guest-workers_n_2131914. [<https://perma.cc/4G8K-MEPD>].

47. MSA 2015, §§ 1–4, *supra* note 8.

48. *Id.* at §§ 5–13.

49. *Id.* at §§ 14–39.

50. *Id.* at §§ 40–44.

51. *Id.* at §§ 45–53.

52. For a history of the MSA and its legislative process, see Virginia Mantouvalou, *The UK Modern Slavery Act 2015 Three Years On*, 81 MOD. L. REV. 1017, 1039 (2018).

53. MSA Practical Guidance, *supra* note 11, at 18.

providing goods and services or otherwise conducting business in the United Kingdom while having an annual global turnover⁵⁴ of more than £36 million are required to publish an annual statement about what steps, if any, they have taken to prevent modern slavery in their global operations and supply chains.⁵⁵ The requirements are simple and straightforward: companies must report on the steps⁵⁶ taken to address slavery and human trafficking in their business operations and supply chain,⁵⁷ the company's board must approve the statement, it must be signed by a board member, and the company must update its filing on an annual basis.⁵⁸

The foregoing is all that is required to comply with the MSA. The minimal regulatory burden⁵⁹ and nominal compliance costs were intentional. Indeed, the entire regulatory approach was overtly conceived as a mere “nudge”⁶⁰ to edge companies in the right direction, with the expectation that outside stakeholders such as investors and consumers would apply the necessary pressure to force action.⁶¹ Whatever its other limitations, the MSA addresses the challenge of corporate ignorance of trafficking in their supply chains⁶² by forcing companies at least to begin to consider the issue.⁶³

54. “‘Turnover’ consists of the amount derived from the provision of goods and services falling within ordinary activities, after the deduction of trade discounts, value-added tax and any other taxes based on the amounts so derived.” *Id.* at 7.

55. See MSA 2015, *supra* note 11, §§ 54(2), (4).

56. Substantively, it makes sense for legislators to require companies to disclose whatever programs they have. The existence of anti-trafficking programs likely would have a beneficial effect for the same kinds of reasons that the mere existence of an ethics program within a company correlates with more ethical behavior by its employees. See Muel Kaptein, *The Effectiveness of Ethics Programs: The Role of Scope, Composition, and Sequence*, 132 J. BUS. ETHICS 415 (2015). This assumes that such programs are properly resourced. See James Weber & David Wasieleski, *Corporate Ethics and Compliance Programs: A Report, Analysis and Critique*, 112 J. BUS. ETHICS 609 (2013).

57. MSA 2015, *supra* note 8, § 54(4).

58. *Id.* at §§ 54(1), (6); MSA Practical Guidance, *supra* note 11, at 12–14.

59. See Business & Human Rights Resource Centre, *Modern Slavery Act: Five Years of Reporting*, 2 (Feb. 2021), https://media.business-humanrights.org/media/documents/MSR_Embargoed.pdf [perma.cc/GC2R-UYC4] (criticizing corporate failure “to submit a trifling level of reporting which has not been monitored or enforced [by the government]”) [hereinafter MSA: Five Years of Reporting].

60. See Report, *Modern Slavery Bill: Impact Assessment*, 18, UNITED KINGDOM HOME OFFICE (Oct. 30, 2014), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/371057/MSB_IA.pdf [https://perma.cc/Q3YN-SBZ7] (noting the “intention [that the MSA] will just act as a nudge for businesses to take action, because once consumers, investors and others have a better understanding of what action business is taking, they will call for more action if they think it is necessary. Therefore, the only cost as a direct result of this regulation will be the very small cost of putting the disclosure together and publishing it online”).

61. For more on the “nudge” as regulatory strategy, see Todd Haugh, *Nudging Corporate Compliance*, 54 AM. BUS. L.J. 683 (2017).

62. See, e.g., Katherine Taken Smith & Teresa Betts, *Your Company May Unwittingly Be Conducting Business with Human Traffickers: How Can You Prevent This?*, 58 BUS. HORIZONS 225 (2015) (discussing ways in which companies may inadvertently contribute to the problem of human trafficking, especially in the global context).

63. See, e.g., Ras & Gregoriou, *supra* note 28.

The MSA does not dictate what a statement must include, how it should be structured, or how much information is required.⁶⁴ The statute provides that a company *may* include information about the following topics:

1. The company's structure, its business and its supply chains;
2. Company policies in relation to slavery and human trafficking;
3. The company's due diligence processes in relation to slavery and human trafficking in its business and supply chains;
4. The parts of its business and supply chains where there is a risk of slavery and human trafficking taking place, and the steps it has taken to assess and manage that risk;
5. Its effectiveness in ensuring that slavery and human trafficking is not taking place in its business or supply chains, measured against such performance indicators as it considers appropriate; and
6. Training about slavery and human trafficking for staff.⁶⁵

However, the company is not required to address any of these considerations. Indeed, it is entirely up to companies to decide what to say and how to say it:

The Government has not been prescriptive about the layout or specific content of a slavery and human trafficking statement. It is up to organizations how they present information in the statement and how much detail they provide. However, organizations must include in the statement all the steps they have taken. The information presented in the statement will be determined by the organization's sector, the complexity of its structure and supply chains, or the particular sectors and nations its suppliers are working in.⁶⁶

B. *Limitations of the MSA and the Disclosure Approach*

The MSA focuses on disclosure, not action. It does not require that companies actually take steps to address slavery or human trafficking in their supply chains. They need only disclose whatever affirmative efforts they undertake.⁶⁷ The utility of these kinds of disclosure regulations has been questioned,⁶⁸ most notably on the ground that they can let companies off

64. MSA Practical Guidance, *supra* note 11, at 12.

65. MSA 2015, *supra* note 8, § 5.

66. MSA Practical Guidance, *supra* note 11, at 10.

67. See MSA 2015, *supra* note 8, § 5A(4).

68. For more on trends toward mandatory corporate disclosure of nonfinancial and social risks, see, e.g., Virginia Harper Ho, *Nonfinancial Risk Disclosure and the Costs of Private Ordering*, 55 AM. BUS. L.J. 407 (2018) (arguing that current models of nonfinancial risk disclosure predicated on private ordering are ineffective); Stephen Kim Park, *Targeted Social Transparency as Global Corporate Strategy*, 35 Nw. J.

the hook from taking more substantive measures.⁶⁹ To others, disclosure is an important first step in creating more robust reporting requirements on a variety of human rights.⁷⁰

At the moment, the MSA offers little coercive heft in terms of enforcement. It lacks fines, criminal penalties, or other sanctions for failing to report.⁷¹ At most, the UK Home Secretary can resort to the courts to seek an injunction compelling a particular company to issue a disclosure,⁷² though it does not appear that this authority has yet been utilized.⁷³ The true iron in the glove thus comes from the court of public opinion, rather than government coercion or the courts of law.⁷⁴

Broadly speaking, corporate disclosure requirements “promote transparency and facilitate monitoring and enforcement.”⁷⁵ As public documents, MSA statements (or their absence) are subject to scrutiny not only by government regulators, but also by NGOs, activist shareholders, consumers, socially responsible investors, and business partners (including both suppliers⁷⁶ and customers),⁷⁷ or perhaps even by coalitions of these stakeholders.⁷⁸ But a company willing to incur the inevitable social approbation from these myriad sources could publish a statement that says, in effect,

INT’L L. & BUS. 87 (2014) (discussing mandatory social transparency disclosures as a means of regulating global corporate conduct).

69. See, e.g., Adam S. Chilton & Galit Sarfaty, *The Limitations of Supply Chain Disclosure Regimes*, 53 STAN. J. INT’L L. 1 (2016) (arguing that corporate supply chain disclosure regimes were ineffective because they failed to provide information on specific products, supply chain risks varied dramatically by industry, and disclosures served at most as weak proxies for human rights outcomes); Magdalena Öberseder, Bodo B. Schlegelmilch & Verena Gruber, “Why Don’t Consumers Care about CSR?” – A Qualitative Study Exploring the Role of CSR in Consumption Decisions, 104 J. BUS. ETHICS 449 (2011) (noting that price and quality are far more important in purchasing decisions than the company’s CSR commitments).

70. See Rae Lindsay, Anna Kirkpatrick & Jo En Low, *Hardly Soft Law: The Modern Slavery Act 2015 and the Trend Towards Mandatory Reporting on Human Rights*, 18 BUS. L. INT’L 29, 39 (2017). Some have noted a wider trend toward “hardening” CSR disclosures through legal mandates. See, e.g., Gerlinde Berger-Walliser & Inara Scott, *Redefining Corporate Social Responsibility in an Era of Globalization and Regulatory Hardening*, 55 AM. BUS. L.J. 167, 208 (2018).

71. See MSA 2015, *supra* note 8, § 54(4).

72. *Id.* at § 54(11). For more discussion, see Mantouvalou, *supra* note 54, at 1039.

73. See Int’l Corp. Accountability Roundtable and Focus on Lab. Exploitation, *Full Disclosure: Towards Better Modern Slavery Reporting*, 18 (Mar. 2019), <https://www.labourexploitation.org/publications/full-disclosure-towards-better-modern-slavery-reporting> [https://perma.cc/AJ5L-2QQK].

74. For more on the use of open calls to interested parties as a means of furthering regulatory objectives, see generally David Orozco, *The Use of Legal Crowdsourcing (‘Lawsourcing’) as a Means to Achieve Legal, Regulatory and Policy Objectives*, 53 AM. BUS. L.J. 145 (2016).

75. See Evan J. Criddle, *Fiduciary Administration: Rethinking Popular Representation in Agency Rulemaking*, 88 TEX. L. REV. 441, 469 (2010).

76. See, e.g., Jonathan Todres, *The Private Sector’s Pivotal Role in Combating Human Trafficking*, 3 CAL. L. REV. CIR. 80, 92 (2012) (noting that “[d]isclosure requirements also enable other businesses to consider these issues in choosing business partners”).

77. See Steve New, *The Transparent Supply Chain*, HARV. BUS. REV. (Oct. 2010) (noting that “[c]onsumers, governments, and companies are demanding details about the systems and sources that deliver the goods”).

78. Investors, for example, have collaborated with NGOs to exert financial pressure on companies to redress human trafficking and related challenges. See, e.g., Investor Statement, KNOWTHECHAIN (May 2021), <https://knowthechain.org/wp-content/uploads/KnowTheChain-investor-statement.pdf>

“Company XYZ does nothing to consider human trafficking in its supply chain because Company XYZ simply does not care about people who are enslaved.” Provided that it was adopted and signed by the board and updated annually, this kind of statement complies fully with the MSA.⁷⁹

Given these minimal standards that often apply, such self-guiding approaches to human rights reporting often prove less than effective in altering corporate behavior.⁸⁰ As one assessment of the MSA noted, “[p]articularly in relation to the regulation of business conduct, self-regulation has been criticised for simply protecting businesses from reputational damage and for limiting their liability, and has been shown through empirical research to be ineffective unless combined with strong public institutions and laws.”⁸¹

This appears to be the case with early statements under the MSA. One early review of MSA reports revealed that just over half (56%) of company statements met even the baseline requirements (description of anti-trafficking efforts, board approval and signature, and annual updates).⁸² Most that satisfied the minimal expectations nevertheless failed to provide the details that the legislators recommended, such as considering risks arising out of extended supply chains (i.e., subcontractors or the suppliers’ suppliers) or other forms of indirect business relationships, such as franchisees and overseas partners.⁸³ A subsequent government review reached similar conclusions, finding that “a lack of enforcement and penalties, as well as confusion surrounding reporting obligations, are core reasons for poor-quality statements and the estimated lack of compliance” (i.e., failure to file any statements at all) from over a third of eligible firms.⁸⁴

[<https://perma.cc/55YG-L2GA>] (160 investors with \$6.2 trillion in assets under management discussing expectations on corporate obligations around forced labor in global supply chains).

79. While few companies would be so overtly callous, some well-known brands have disclaimed responsibility for assessing trafficking in their supply chains, at least with respect to other disclosure laws. See, e.g., *CA Transparency in Supply Chains Act Notice*, KRISPY KREME (last accessed Aug. 2, 2021), <https://www.krispykreme.com/legal/s-b-657-supply-chains-act> [<https://perma.cc/E8UE-2XZB>] (confirming that Krispy Kreme does not engage in verification of product supply chains to evaluate and address risks of human trafficking and slavery, nor conduct audits of suppliers to evaluate supplier compliance with company standards against trafficking and slavery in supply chains). The donut chain also disclaims responsibility for supplier certification, internal accountability standards and procedures, and training. *Id.*

80. See, e.g., David Hess, *The Transparency Trap: Non-Financial Disclosure and the Responsibility of Business to Respect Human Rights*, 56 AM. BUS. L.J. 5, 27 (2019) (identifying challenges *inter alia* with the metrics used to assess human rights in sustainability reporting as well as issues with selective disclosure and reputation management).

81. See Mantouvalou, *supra* note 52, at 1040.

82. *Id.* at 1042.

83. *Id.*

84. *Independent review of the Modern Slavery Act: final report*, 28 ¶ 1.4 (May 22, 2019), <https://www.gov.uk/government/publications/independent-review-of-the-modern-slavery-act-final-report> [hereinafter 2019 Independent MSA Review].

III. BEYOND COMPLIANCE: THE WIDER IMPLICATIONS OF MSA STATEMENTS

Reporting under the MSA is a multi-faceted issue. Companies must respond to increasing numbers of domestic laws on the subject: some companies are also required to report, for example, under similar disclosure laws in California⁸⁵ and Australia,⁸⁶ and more disclosure requirements are forthcoming as additional reporting laws are passed in other jurisdictions. These laws sit within the global context of wider questions around corporate legal duties to respect human rights under emerging international initiatives such as the “protect-respect-remedy” framework of the United Nations Guiding Principles on Human Rights.⁸⁷ For over ten thousand companies, similar requirements arise from the need to report on forced labor issues by virtue of a company’s voluntary membership in the UN Global Compact.⁸⁸

The reporting and disclosure requirements in question thus relate to a serious underlying challenge for modern businesses with increasingly complex national and global supply chains.

Ethical management of these supply chains is a critical functional task for modern business,⁸⁹ which means that companies necessarily must address human trafficking as an operational issue as well. Companies face serious risks if they fail to do so. One sample of companies providing MSA statements revealed that 77% of the companies believed that modern slavery likely was occurring somewhere in their supply chains.⁹⁰ The creation of processes, systems, and responsible parties to consider such issues certainly

85. See California Transparency in Supply Chains Act, Cal. Civ. Code § 1714.43, Stats. 2010, Ch. 556 (S.B. 657) § 3 (2010) (specifying five topics on human trafficking risks in the supply chain that statements must address) [hereinafter CTSCA 2010].

86. See *Modern Slavery Act No. 153 2018* § 16(1) (Austl.) (last accessed Nov. 10, 2021), <https://www.legislation.gov.au/Details/C2018A00153> [<https://perma.cc/J8R2-6HVB>] (setting forth mandatory criteria for statements, mandating disclosure of slavery and trafficking-related topics such as risk assessment, due diligence and remediation, and the effectiveness of mitigation strategies undertaken) [hereinafter Australia MSA 2018].

87. John Ruggie (Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises), *Guiding Principles on Business and Human Rights: Implementing the United Nations ‘Protect, Respect and Remedy’ Framework* ¶ 9, U.N. Doc. A/HRC/17/31 (Mar. 21, 2011). Wider linkages between disclosure requirements and corporate obligations to uphold human rights under the U.N. Guiding Principles on Human Rights are not discussed here. For more, see Jena Martin, *Hiding in the Light: The Misuse of Disclosure to Advance the Business and Human Rights Agenda*, 56 COLUM. J. TRANSNAT’L L. 530, 534 (2018).

88. See U.N. Global Compact, *The Ten Principles of the UN Global Compact, Principle Four: Labour* (last accessed Mar. 5, 2022), <https://www.unglobalcompact.org/what-is-gc/mission/principles/principle-4> [<https://perma.cc/8GJU-HWM3>]. See also Jill Brown, Cynthia Clark & Anthony F. Buono, *The United Nations Global Compact: Engaging Implicit and Explicit CSR for Global Governance*, 147 J. BUS. ETHICS 721, 723–24 (2018).

89. See, e.g., Dana Raigrodski, *Creative Capitalism and Human Trafficking: A Business Approach to Eliminate Forced Labor and Human Trafficking from Global Supply Chains*, 8 WM. & MARY BUS. L. REV. 71, 71 (2016) (noting the importance of ethical supply chain management but acknowledging that actually ensuring that businesses meaningfully identify and redress human trafficking in their global supply chains is “an uphill battle”).

90. Lake et al., *supra* note 25, at 9.

would be a meaningful step toward mitigating the inevitable reputational damage and other harms arising out of an incident of human trafficking that becomes public.

Reputational harm can ensue whether or not the breach of a legal prohibition leads to criminal⁹¹ or civil⁹² liability, asset forfeiture,⁹³ government enforcement measures (e.g., import or export bans,⁹⁴ or debarment from public contracting⁹⁵), or lawsuits by private sector actors.⁹⁶ Indeed, some evidence suggests that the strongest driver of compliance behavior (97% of companies surveyed) in this area is in fact reputational risk.⁹⁷ Reputation is the key leverage point contemplated by the MSA, in that anti-trafficking disclosures “tie to two interrelated concerns of business: brand management and consumer opinion.”⁹⁸

Risk management aside, anti-trafficking measures also can be viewed through the lens of corporate self-interest, where companies actually benefit in some way by creating and reporting on anti-slavery measures. Although the overall business case for advancing human rights is not discussed in detail here,⁹⁹ the underlying premise is the broader notion of creating “shared value, which involves creating economic value in a way that *also* creates value for society by addressing its needs and challenges.”¹⁰⁰ Such Environmental, Social and Governance (“ESG”) considerations—into which anti-slavery initiatives certainly would fall—are associated with

91. U.S. federal law allows for the criminal prosecution of anyone who “knowingly benefits, financially or by receiving anything of value, from participation in a venture which has engaged in the providing or obtaining of labor or services” using any form of forced labor. See Trafficking Victims Protection Reauthorization Act, 18 U.S.C. §§ 1589–91 (2008) (criminalizing involuntary servitude, forced labor, and the trafficking of individuals to facilitate these crimes or sexual offenses against the person) [hereinafter TVPRA]; Forced Labor Act, 18 U.S.C. § 1589 (2012).

92. See TVPRA, 18 U.S.C. §§ 1589, 1595 (providing civil remedies for victims of human trafficking).

93. The risk of forfeiture should give businesses considerable pause. There is no inherent reason why very expensive commercial assets (factories, vessels, farms, retail establishments, etc.) where trafficking or forced labor occurs should automatically be exempt from the forfeiture rules that otherwise apply, at least when a criminal conviction is established. See *id.*; 18 U.S.C. § 1594(d) (providing that a criminal conviction under the TVPRA can lead to forfeiture). The U.K. has similar forfeiture laws to which the MSA applies. See MSA 2015, *supra* note 8, at § 7.

94. The Trade Facilitation and Trade Enforcement Act, 19 U.S.C. § 4301 (2015) increases the effectiveness of the Smoot-Hawley Act, which in 1930 prohibited the importation of goods produced “wholly or in part . . . by convict labor or/and forced labor or/and indentured labor.” See Smoot-Hawley Tariff Act of 1930, 19 U.S.C. § 1307 (2012 & Supp. III 2015).

95. See Strengthening Protections Against Trafficking in Persons in Federal Contracts, Exec. Order No. 13,627, 3 C.F.R. 13627 (2013) (prohibiting any form of human trafficking or related offenses in government contracting); 19 U.S.C. § 1307 (prohibiting the import of goods manufactured in whole or in part using forced labor as part of anti-trafficking provisions in federal government contracting).

96. See, e.g., Andrew G. Barna, *The Early Eight and the Future of Consumer Legal Activism to Fight Modern-Day Slavery in Corporate Supply Chains*, 59 WM. & MARY L. REV. 1449 (2018).

97. See Lake et al., *supra* note 25, at 9.

98. Todres, *supra* note 76, at 92.

99. See, e.g., Raigrodski, *supra* note 89.

100. Michael E. Porter & Mark R. Kramer, *Creating Shared Value*, 2011 HARV. BUS. REV. 1, 4 (2011).

higher levels of corporate value creation.¹⁰¹ Companies thus may seek to understand, redress, and report on trafficking issues in their supply chains because their businesses improve as a result.¹⁰² Some companies even appear to receive favorable publicity from strong MSA compliance. For example, the NGO Development International published a “FTSE 100 League Table” in October 2018 assessing how well companies complied with the MSA, with British retailer Marks & Spencer, grocer Tesco, and tobacco company British American Tobacco rounding out the top three.¹⁰³

This Article (and the data set created by the Authors in relation to it) present the opportunity to consider—at a macro scale—compliance with a simple statutory mandate, as well as how corporate entities interpret and respond to open-ended opportunities in order to state something about their beliefs about fundamental human rights. Reporting companies appear to be communicating something through these statements that goes beyond the statutory mandate. As noted previously, to “check the box” for compliance purposes, companies need include only the bare minimum components discussed above.¹⁰⁴ Companies that exceed these minima will incur at least some cost in generating and reporting the supplemental information. It must for some reason be worth their while to do so. Since companies are free to choose what, how much, and how to report on their anti-slavery endeavors, it is likely that the choices companies make in the content of their statements reflect something important about how the company sees itself and how it wishes the world to see it in this regard.

Companies responding to the statutory requirement to create and disclose an MSA statement thus are likely to take the opportunity to both comply with the law’s requirements¹⁰⁵ and to positively influence their reputations in the process.¹⁰⁶ Through carefully crafted communications about

101. See, e.g., *The ESG Premium: New Perspectives on Value and Performance*, MCKINSEY (Feb. 12, 2020), <https://www.mckinsey.com/business-functions/sustainability/our-insights/the-esg-premium-new-perspectives-on-value-and-performance/> [https://perma.cc/3Q5L-7XG4].

102. See Raigrodski, *supra* note 89. Though not discussed here, it is worth noting that private sector innovation also can play an important problem-solving role in redressing trafficking, where the strengths of the private sector are leveraged to help stop this serious social problem. See, e.g., Todres, *supra* note 76, at 86 (noting that “the private sector’s (1) position in relation to streams of commerce, (2) focus on innovation, and (3) access to resources, position it as a potentially valuable partner in combating the trafficking and enslavement of human beings”).

103. See Chris N. Bayer et al., *Global Governance – Compliance and Conformance with U.K. MSA and Good Practice in Human Rights, FTSE 100 and Real Estate 100*, DEVELOPMENT INTERNATIONAL (Oct. 2018), https://docs.wixstatic.com/ugd/f0f801_e4fe7195ed6447a29ce587d243f9f693.pdf [https://perma.cc/HK3J-7SZR]. See also Business & Human Rights Resource Centre, *FTSE 100 & the UK Modern Slavery Act: From Disclosure to Action* (Nov. 19, 2018), https://media.business-humanrights.org/media/documents/files/FTSE_100_Briefing_2018.pdf [https://perma.cc/3L4R-US5F] (assessing and ranking MSA compliance by FTSE 100 companies, praising top performers and criticizing companies at the bottom of the ranking list).

104. See *supra* notes 56–68 and accompanying text.

105. MSA 2015, *supra* note 8, §§ 54(4), (6).

106. Such messaging is common in other contexts. See, e.g., Gregory Saxton, Lina Gomez, Zed Ngoh, Yi-Pin Lin & Sarah Dietrich, *Do CSR Messages Resonate? Examining Public Reactions to Firms’ CSR*

their policies, priorities, and values—*inter alia*, the six “suggested” categories in the MSA itself¹⁰⁷—reporting companies have the opportunity to state publicly which anti-trafficking issues are most important to them.¹⁰⁸ The Authors now turn to the discussion of the application of machine learning techniques as a new methodology for analyzing the massive corpus of human trafficking statements generated under the MSA, in the hope of gaining unique insights into how companies interpret and actually approach these issues in practice.

IV. EVALUATING CORPORATE RESPONSES TO THE MSA

This Article does not seek to analyze every possible finding that could be revealed from the unique dataset created. Rather, it focuses on analyzing three dimensions of the corporate response to the MSA that are most likely to yield useful information for legislators and other stakeholders to understand:

1. Statutory compliance: statement text relating to the mandatory disclosures required by the statute;
2. Engagement of company leadership: the corporate leaders discussed in MSA statements, as key actors in identifying and redressing human trafficking in the supply chain; and
3. Reputation enhancement: whether companies seek to “anchor” or contextualize their anti-trafficking statements within the wider human rights context of anti-trafficking treaties, global commitments, UN initiatives, broader company policies on human rights, or similar matters.

The first dimension focuses on how companies interpret a simple statutory mandate requiring high-level company leadership to make some effort to consider trafficking in the supply chain. Boards set the tone for nearly everything that a company does, and solid leadership is critical to creating ethical business infrastructures.¹⁰⁹ Part of this involves integrity—that a company can be trusted to be honest in its communications. Some describe corporate leaders as the “Chief Truth Officers” of the business, organizing and serving as the visible figureheads of the company’s truth-telling prac-

Efforts on Social Media, 155 J. BUS. ETHICS. 359, 360–61 (2019); Fabrizio Zerbini, *CSR Initiatives as Market Signal: A Review and Research Agenda*, 146 J. BUS. ETHICS 1 (2017).

107. MSA 2015, *supra* note 8, § 54 (5).

108. In this sense, MSA statements form part of the wider narrative that a company tells about itself and its role in society. See, e.g., Justin Blount & Patricia Nunley, *Social Enterprise, Corporate Objectives, and the Corporate Governance Narrative*, 52 AM. BUS. L.J. 201 (2015). See also Mary Kay Gugerty, *Signaling Virtue: Voluntary Accountability Programs Among Nonprofit Organizations*, 43 POL’Y SCI. 243 (2009) (discussing measures such as voluntary corporate participation in accountability and standard-setting programs).

109. See, e.g., José-Luis Fernández & Javier Camacho, *Effective Elements to Establish an Ethical Infrastructure: An Exploratory Study of SMEs in the Madrid Region*, 138 J. BUS. ETHICS 113, 115–24 (2015).

tices.¹¹⁰ Perhaps in recognition of the critical role of boards of directors in ensuring ethical behavior,¹¹¹ the MSA itself requires board approval and signature on the annual MSA statement.¹¹²

The second dimension relates to other aspects of company leadership—beyond compliance and taking seriously statutory reporting mandates in the human rights arena.¹¹³ While the board establishes the company's anti-trafficking policy as part of its overall corporate strategy, it falls to senior management to execute around the priorities that the board has established.¹¹⁴ Chief Executive Officers ("CEOs") certainly play a critically important role in this regard. Indeed, CEO engagement is largely seen as a prerequisite to creating an ethical organization that takes seriously principles of corporate social responsibility.¹¹⁵ CEOs likewise are critical to the success of the company's anti-trafficking initiatives, such that companies would want to clearly signal their CEO's involvement through their MSA statements. Over time, it is possible that the MSA reporting process itself might increase CEO engagement with anti-trafficking issues by forcing the company's board and upper management to pay some attention to the issue. One small study suggested that this was the case, claiming that the MSA had doubled CEO engagement and reaffirmed the importance of senior leadership engagement to address modern slavery in the supply chain.¹¹⁶

110. See, e.g., Jean-Philippe Bouilloud, Ghislain Deslandes & Guillaume Mercier, *The Leader as Chief Truth Officer: The Ethical Responsibility of "Managing the Truth" in Organizations*, 157 J. BUS. ETHICS 1 (2019).

111. See, e.g., Michael D. Greenberg, *Directors as Guardians of Compliance and Ethics Within the Corporate Citadel: What the Policy Community Should Know* 14-8, RAND CORPORATION (2010), https://www.rand.org/pubs/conf_proceedings/CF277.html [<https://perma.cc/SV5N-WY2H>].

112. These duties have legal as well as managerial implications. The seminal *Caremark* case, for example, confirmed that boards of directors have a fiduciary obligation to oversee corporate ethics and compliance programs. See *In re Caremark International Inc. Derivative Litigation*, 698 A.2d 959, 967 (Del. Ch. 1996). For more, see Paul E. McGreal, *Caremark in the Arc of Compliance History*, 90 TEMP. L. REV. 647 (2018).

113. The U.S. sentencing guidelines, for example, specify that direct monitoring and engagement by senior company leadership is essential for a compliance and ethics program to qualify as "effective." See Federal Sentencing Guidelines Manual (U.S. Sentencing Comm'n 2018), Effective Compliance and Ethics Program, § 8.B.2.1(b)(2)(A) (noting that "[t]he organization's governing authority shall be knowledgeable about the content and operation of the compliance and ethics program and shall exercise reasonable oversight with respect to [its] implementation and effectiveness"); 8.B.2.1(b)(2)(B) (requiring that "[h]igh-level personnel of the organization shall ensure that the organization has an effective compliance and ethics program").

114. See, e.g., C.T. CORPORATION, *THE CORPORATION HANDBOOK: AN INTRODUCTION TO CORPORATIONS FOR THE LEGAL PROFESSIONAL* 41 (2016) ("The officers of a corporation are the agents through which the board of directors acts. The board makes the decisions and designates the officers to execute them.").

115. José-Luis Godos-Díez, Roberto Fernández-Gago & Almudena Martínez-Campillo, *How Important Are CEOs to CSR Practices? An Analysis of the Mediating Effect of the Perceived Role of Ethics and Social Responsibility*, 98 J. BUS. ETHICS 531 (2011).

116. See Lake et al., *supra* note 25, at 9–10.

The Authors also considered whether references to other senior company leaders (such as a corporate ethics officer¹¹⁷ or general counsel¹¹⁸) might provide insights into how companies contextualize and execute their anti-trafficking efforts. In order to better understand the range of people involved, personnel references are divided into five broad categories:

1. *Board participation or statement adoption*, with limited references demonstrating minimal substantive compliance with the MSA but more widespread references tending to establish anti-trafficking measures as more than minimally important for policymaking and strategic direction at the top level of the company;¹¹⁹
2. *The company CEO*, as tending to demonstrate that anti-trafficking initiatives are seen as a matter of leadership belonging to the highest corporate officer in the company;
3. *Company Operations*, in the form of the Chief Operating Officer, Chief Financial Officer, and the like, as tending to demonstrate that anti-trafficking initiatives are seen as an operational or financial problem for the company;
4. *Company Branding*, in the form of Public Relations heads or Chief Branding Officers, as tending to demonstrate that companies see anti-trafficking initiatives primarily as a reputational issue; and
5. *Compliance and Risk Management*, in the form of General Counsel or Chief Ethics Officers, as tending to demonstrate that companies see anti-trafficking initiatives primarily as a matter of regulatory compliance.

Finally, in order to consider the third dimension—the impact of the wider context of global human rights initiatives and instruments—the Authors identified eight “anchor” categories relating to anti-trafficking treaties or global commitments that companies might reference in their reports. None of these categories are prescribed (or even recommended) by the MSA itself. As such, companies that address these topics in their statements are

117. See Henry Adobor, *Exploring the Role Performance of Corporate Ethics Officers*, 69 J. BUS. ETHICS 57, 59 (2006) (discussing the importance of corporate ethics officers in ensuring ethical corporate behavior).

118. See, e.g., Robert C. Bird & Stephen Kim Park, *The Domains of Corporate Counsel in an Era of Compliance*, 53 AM. BUS. L. J. 203, 208–17 (2016) (discussing the special role of corporate lawyers in regulatory compliance); Z. Jill Barclift, *Preventive Law: A Strategy for Internal Corporate Lawyers to Advise Managers of Their Ethical Obligations*, 33 J. LEGAL PROF. 31, 32 (2008) (discussing the overall role of corporate counsel in the proactive management of a client’s legal and ethical affairs).

119. Some research suggests a link between strong corporate governance and higher-quality sustainability efforts, for example. See, e.g., Seong Mi Bae, Abdul Kaium Masud & Jong Dae Kim, *A Cross-Country Investigation of Corporate Governance and Corporate Sustainability Disclosure: A Signaling Theory Perspective*, 10 SUSTAINABILITY 2611 (2018), <https://www.mdpi.com/2071-1050/10/8/2611/html> [https://perma.cc/M9K8-6STZ].

clearly going *beyond* the statutory mandate. MSA statements with such references suggest that a company seeks to contextualize its own anti-trafficking initiatives within one or more internationally recognized groupings that affirm commitments to human rights in different ways. By doing so, companies draw upon the social and moral authority inherent in such instruments, seeking to convey their own positive virtues as adherents to those principles.

Implicitly, these virtues would include the benefits accrued when a company can demonstrate affirmatively that it adheres to human rights principles. Documentation, for example, enables a company to move from being “named and shamed” by others for its failures to “knowing and showing” that it has internalized human rights commitments to its external stakeholders.¹²⁰ Focusing on human rights also can lead to better understanding of global operations and processes, enabling companies to close gaps and improve processes.¹²¹ Human rights commitments also enable a company to avoid the negatives of being on the wrong side of human rights infringements—for example, avoiding situations where the failure to aggregate and account for human rights risks also puts a company out of compliance with securities laws or corporate governance regulations.¹²² Focusing on human rights also provides corporate boards with strong protection against shareholder activism relating to company mismanagement and legal protection in connection with human rights lawsuits.¹²³

The eight anchor groupings are described as follows:

- Anchor Category 1: international human rights treaties, such as the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, or the Convention on the Rights of the Child
- Anchor Category 2: important regional international human rights treaties, such as the European Convention on Human Rights
- Anchor Category 3: international anti-slavery and workers’ rights treaties, such as the Palermo Protocol, the ILO’s Forced Labour Convention, or the Migrant Workers Convention
- Anchor Category 4: UN Offices / Agencies, such as the UN Office of the High Commissioner on Human Rights or the UN Human Rights Council

120. See U.N. Secretary-General, *Report of the Special Representative of the Secretary-General on the Issue of Human Rights and Transnational Corporations and Other Business Enterprises, John Ruggie – Business and Human Rights: Further Steps Toward the Operationalization of the “Protect, Respect and Remedy” Framework*, ¶ 80-83, UN Doc. A/HRC/14/27 (Apr. 9, 2010).

121. *Id.* at ¶¶ 69–73.

122. *Id.* at ¶ 69.

123. *Id.* at ¶ 86.

- Anchor Category 5: UN Anti-Trafficking Programs / Initiatives, such as the UN's Global Plan of Action to Combat Trafficking in Persons
- Anchor Categories 6–8: major UN initiatives on human rights and the corporate sector, namely the UN Global Compact (category 6), the UN Sustainable Development Goals (category 7), or the UN Guiding Principles on Business & Human Rights (category 8).¹²⁴

It is important to note two caveats before detailing the specific methodology utilized to analyze these three dimensions. First, this Article does not attempt to validate the truth of claims made in company MSA statements. It is possible for companies to misstate or overstate their commitments to redress human trafficking. Companies that do this certainly are open to allegations of “greenwashing” (misrepresenting social commitments)¹²⁵ or “bluewashing” (misrepresenting commitments to UN initiatives such as the Global Compact).¹²⁶ Such “CSR-washing”¹²⁷ efforts are more complex phenomena than surface analysis might imply, as are the various CSR-hypocrisy avoidance strategies that can be used to mitigate “washing” effects.¹²⁸ All of these issues may lurk in the background with MSA statements as well, and auditing or otherwise testing the factual validity of assertions made in MSA statements is an important direction for future research. These questions are put aside here in favor of a sharper focus on what companies are saying.

Second, the nature of the data set does not allow us to consider whether a message of some kind is being sent by the *absence* of reporting from companies who are legally obligated to publish MSA statements but who nevertheless fail to do so. While some have identified penalties for failing to report in other human rights contexts—for example, failing to file voluntary statements under the UN Global Compact,¹²⁹ which includes a provi-

124. Note that Anchor Categories 1–3 emphasize human rights treaties and instruments that potentially create binding obligations under international law, whereas Categories 4–8 focus on initiatives and programs relating to those instruments and voluntary global initiatives in which corporate actors may play a part.

125. See, e.g., Dennis Schoeneborn, Mette Morsing & Andrew Cane, *Formative Perspectives on the Relation Between CSR Communication and CSR Practices: Pathways for Walking, Talking, and T(w)alking*, 59 *BUS & SOC'Y* 5, 7–8 (2019); Beatrice Parguel, Florence Benoit-Moreau & Fabrice Larceneux, *How Sustainability Ratings Might Deter 'Greenwashing': A Closer Look at Ethical Corporate Communication*, 102 *J. BUS. ETHICS* 15, 15–16 (2011).

126. See, e.g., United Nations Global Compact, *supra* note 88, Principle 4; Daniel Berliner & Aseem Prakash, “Bluewashing” the Firm? *Voluntary Regulations, Program Design, and Member Compliance with the United Nations Global Compact*, 43 *POL'Y STUD. J.* 115, 116 (2015).

127. See Shawn Pope & Arild Wæraas, *CSR-Washing is Rare: A Conceptual Framework, Literature Review, and Critique*, 137 *J. BUS. ETHICS* 173, 175 (2016).

128. See Johanna Jauernig & Vladislav Valentinov, *CSR as Hypocrisy Avoidance: A Conceptual Framework*, 10 *SUSTAINABILITY ACCT., MGMT. & POL'Y J.* 2, 7–9 (2018).

129. Estefania Amer, *The Penalization of Non-Communicating UN Global Compact's Companies by Investors and its Implications for This Initiative's Effectiveness*, 57 *BUS. & SOC'Y* 255, 255 (2015).

sion on forced labor—the question of what message might be sent via the absence of MSA reporting is not discussed here. Given that some 40% of covered companies are not complying with the legislation at all,¹³⁰ together with the minimum burden of compliance, it is very likely that the absence of reporting is grounded in a failure to understand an applicable duty to do so. For example, confronted with relatively low reporting under the MSA,¹³¹ the UK government identified 17,000 potentially covered organizations and wrote to company CEOs to put them on notice about the requirement.¹³² Because silence at the very least is ambiguous,¹³³ it is highly unlikely that a company would seek to send a message about its views on human trafficking in the supply chain by making no statement at all.

The Article now proceeds to a discussion of the dataset, methodology, and findings.

V. A MACHINE LEARNING APPROACH TO UNDERSTANDING CORPORATE REPORTING UNDER THE MSA

To study how the three dimensions outlined in the previous Part were incorporated in company statements in response to the MSA, the Authors followed the structured process outlined in Figure 1: (i) the data were collected and preprocessed; (ii) a natural language processing technique (topic modeling) was applied to identify emerging themes; (iii) insights from the topic modeling output and the framework outlined in Part III, *supra*, were used to define groups of specific concepts; (iv) analysis was performed on how these concepts were covered in the statements; and (v) the results were validated by benchmarking against previous smaller studies based on interviews, surveys, and similar traditional qualitative research instruments.¹³⁴ This Part provides a high-level overview of selected findings. The Technical Appendix, *infra*, provides specific information about the data set and the techniques used in the analysis.

130. See 2019 Independent MSA Review, *supra* note 84, ¶ 15.

131. *Id.*

132. Home Office, Government Response to the Independent Review of the Modern Slavery Act, 2019, ¶22 (U.K.), <https://www.gov.uk/government/publications/government-response-to-the-independent-review-of-the-modern-slavery-act> [hereinafter 2019 Home Secretary Response].

133. See, e.g., Richard J. Pierce, Jr., *What Factors Can an Agency Consider in Making A Decision?*, 2009 MICH. ST. L. REV. 67, 72–87 (2009) (discussing various interpretations that can be attributed to silence in the regulatory context).

134. For more technical details on data processing and analysis, see the Technical Appendix, *infra*, following the conclusions and recommendations.

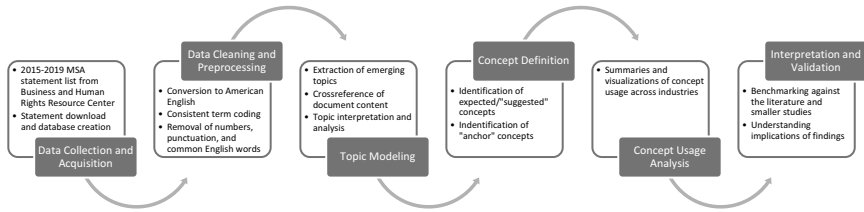


FIGURE 1. OUTLINE OF DATASET CREATION AND METHODOLOGY OF DATA ANALYSIS.

A WordCloud of the most common one hundred words in the data set (Figure 2) summarizes the most important terms and concepts companies associated with the MSA. Most statements focus on the “supply chain,” with “code of conduct” (associated with due diligence processes), “review” (associated with monitoring suppliers and processes), “standards” and “norms” (associated with measuring outcomes), “financial,” and “business relationships” also having a prominent role.¹³⁵

135. See Figure 2, *infra*.



FIGURE 2. WORDCLOUD WITH THE ONE HUNDRED MOST COMMON WORDS THAT OCCUR IN THE CORPUS.

Figure 3 summarizes the use of corporate titles in statements.¹³⁶ Many statements mention top leadership and operations titles, although branding-focused titles (such as “chief communications officer,” “chief marketing officer,” “public relations,” and variations on such titles) are underrepresented. This suggests that even if Public Relations departments are involved in writing MSA statements, companies tend not to be overt about their involvement. A large percentage of companies do not comply with the statutory requirement that the MSA statement must be approved by the board of directors.¹³⁷ Although titles related to the board (“board of directors,” “chairperson”) are mentioned often (1.44 times per statement) and appear in the highest percentage of statements (62% of statements), this still leaves 38% of statements that do not comply with the only content-based MSA requirement.¹³⁸

136. See Figure 3, *infra*. For a listing of corporate titles and groupings considered, see Part III, *supra*.

137. See Original Dataset and Analysis (on file with the Authors).

138. *Id.* Only about 3% of statements came from companies organized as partnerships or similar entities, which may not have formal boards of directors and thus instead might report adoption by an equivalent body using different terminology.

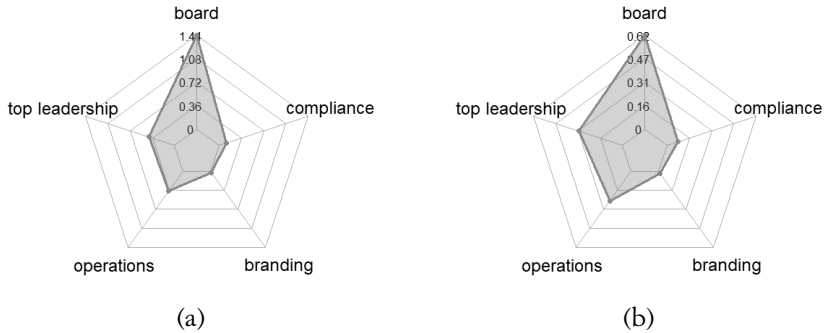


FIGURE 3. USE PER STATEMENT OF TITLES: (A) AS AN AVERAGE OVER ALL STATEMENTS; (B) IN TERMS OF PERCENTAGE OF COMPANIES THAT MENTION AT LEAST ONE TERM IN THE GROUPING.

Delving deeper into operational titles (Figures 4(a) and 4(b)), CFO is the most widely mentioned title in the “operational” group, appearing on average 0.19 times per statement with about 14% of statements mentioning this title. This is surprising, as MSA compliance is not immediately associated with a financial role. As General Electric’s former General Counsel put it, “[i]n most corporations most of the time, the substantive experts on what is the law work for the [General Counsel] (or for the CFO on mandated financial rules).”¹³⁹ One possible explanation for the larger visible presence of CFOs in MSA statements is that MSA reporting is understood as a subset of companies’ overall duties of corporate financial reporting.¹⁴⁰ Another possibility is that companies without in-house legal counsel tend to allocate legal functions and compliance to the CFO.¹⁴¹

139. See Ben W. Heineman, Jr., *The Chief Compliance Officer Debate: Focus on Function Not Form*, AM. BAR ASS’N BUSINESS L. TODAY (July 20, 2016), https://www.americanbar.org/groups/business_law/publications/blt/2016/07/06_heineman/ [<https://perma.cc/JZN5-Q55A>].

140. *Id.*

141. See, e.g., *Compliance risks: What you don’t contain can hurt you*, DELOITTE, <https://www2.deloitte.com/us/en/pages/finance/articles/cfo-insights-compliance-risks.html> [<https://perma.cc/8MFP-VKQ4>] (discussing examples of legal functions and risks falling within the CFO’s areas of responsibility).

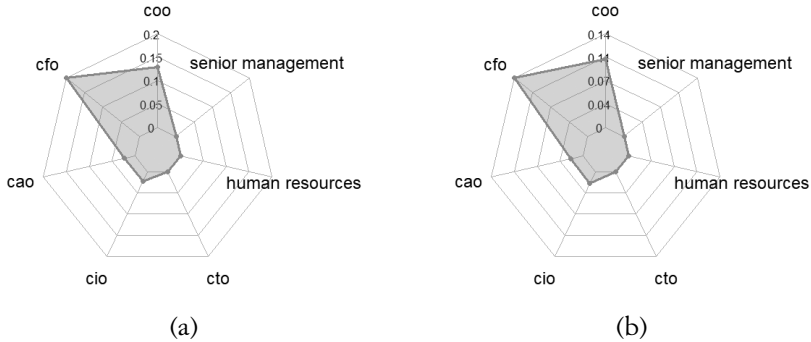


FIGURE 4. USE PER STATEMENT OF OPERATIONS GROUPING TITLES: (A) AS AN AVERAGE OVER ALL STATEMENTS; (B) IN TERMS OF PERCENTAGE OF COMPANIES THAT MENTION AT LEAST ONE TERM IN THE GROUPING.

Figures 5(a) and 5(b) show similar outputs for the compliance title grouping. References to a legal officer (e.g., general counsel) are most common, although they still happen comparatively rarely—appearing approximately 0.06 times per statement, and being mentioned at least once in approximately 4.6% of statements. References to ethics and sustainability officers are the next most common.¹⁴²

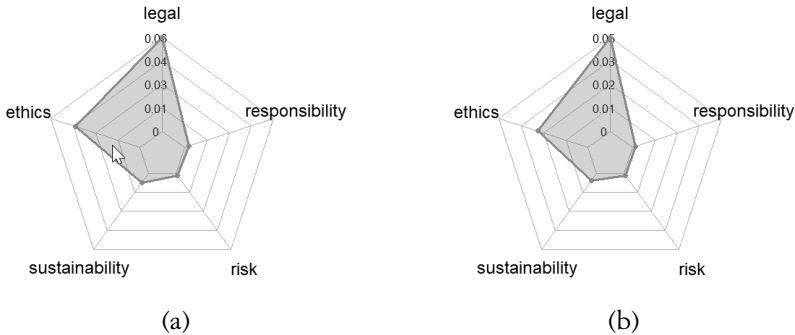


FIGURE 5. USE PER STATEMENT OF COMPLIANCE GROUPING TITLES: (A) AS AN AVERAGE OVER ALL STATEMENTS; (B) IN TERMS OF PERCENTAGE OF COMPANIES THAT MENTION AT LEAST ONE TERM FROM THE GROUPING.

142. See Figure 5, *infra*.

The study yielded additional findings with respect to the coverage of suggested and anchor concepts (Dimension (3)). First, the Authors considered the topics found by the topic modeling algorithm (Table 2).¹⁴³ Four topics that emerged could be classified as “expected,” based on the recommended discussion topics in the MSA itself:¹⁴⁴ ethical sourcing (about 5% of the corpus), compliance (about 9% of the corpus), policies and procedures on ethical employee recruitment (about 17% of the corpus), and risk management through supplier review (28% of the corpus).

The fifth topic, which is approximately 10% of the text corpus created by combining all statements, is not a suggested topic;¹⁴⁵ rather, it is identifiable as “reputation enhancement.”¹⁴⁶ The topic discusses the UN Guiding Principles, human rights, and the UN Global Compact.¹⁴⁷ This is significant in that the algorithm has found that the substantive content of statements is being driven by something beyond the parameters of the MSA itself, or even domestic law in the UK or other countries where the company may operate. This topic suggests that companies themselves are linking their responses to human trafficking (or at least how they are talking about their responses to human trafficking) with larger, global initiatives aimed at protecting human rights in the business context.

Moving on to the predefined concepts, the most often-used terms within the “MSA-suggested” concept group relate to corporate structures, which were mentioned on average 19.33 times per statement (Figure 6(a)). The least often used terms were those in the “effectiveness” group, appearing approximately once per statement (Figure 6(a)). For example, statements do not discuss due diligence, metrics, or training extensively. That said, most statements include at least one mention of terms within those groupings. Figure 6(b) illustrates that the largest percentage of statements discuss policies (94.27%) and structure (93.71%). A large percentage (89.75%) also discuss risk management, and more than 70% discuss due diligence, metrics, and training (Figure 6(b)). The smallest percentage (approximately 50%) discuss effectiveness (Figure 6(b)).

143. For more details, see Technical Appendix, *infra*, Table 2 and accompanying text.

144. See MSA Practical Guidance, *supra* note 11, § 54(5).

145. *Id.*

146. See Figure 8, *infra*.

147. *Id.*

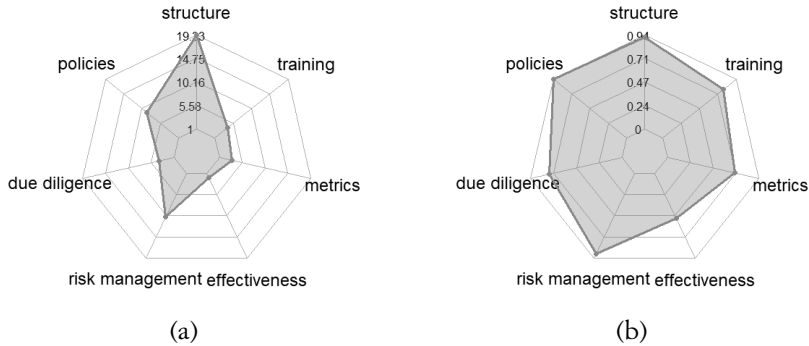


FIGURE 6. USE PER STATEMENT OF TERMS IN THE “SUGGESTED” CONCEPT GROUP: (A) AS AN AVERAGE OVER ALL STATEMENTS; (B) IN TERMS OF PERCENTAGE OF COMPANIES THAT MENTION AT LEAST ONE TERM IN THE GROUPING.

Delving deeper into terms associated with the “policies” concept group, most statements reflect positioning as issues of business policy around business integrity (Figure 7(a) and 7(b)). Few statements are concerned with discussing actionable policies, such as a whistleblowing policy or corrective action and remediation (Figure 7(b)). One possible explanation for this is the vast difference in the level of resources needed to draft a company code or corporate policies and procedures (the MSA compliance program that exists on paper) versus the financial, personnel, and staffing commitments needed to effectively implement, monitor, and enforce compliance with that program at the operational level. That said, truly effective compliance programs require both policies and execution.¹⁴⁸

148. See, e.g., U.S. Sentencing Comm’n, Federal Sentencing Guidelines Manual, Effective Compliance and Ethics Program, § 8.B.2.1(a), (b) (specifying that effective programs require policies and procedures, the commitment of high level company officials, and due diligence to implement and enforce the program).

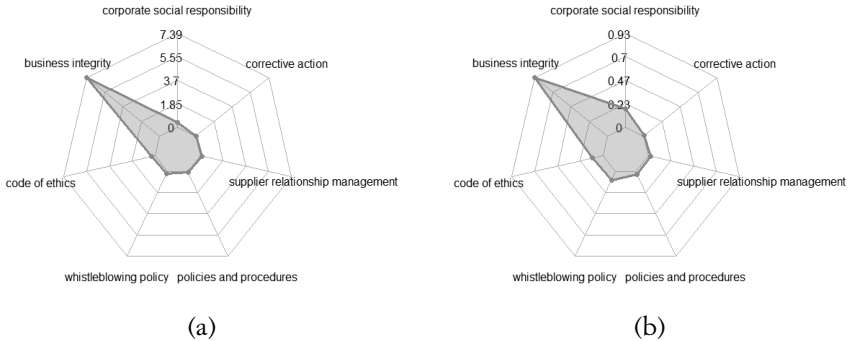


FIGURE 7. USE PER STATEMENT OF TERMS IN THE POLICIES SUBGROUP OF THE “SUGGESTED” CONCEPT GROUP: (A) AS AN AVERAGE OVER ALL STATEMENTS; (B) IN TERMS OF PERCENTAGE OF COMPANIES THAT MENTION AT LEAST ONE TERM IN THE GROUPING.

A similar analysis was performed on “anchor” (reputation enhancement) concepts. As Figure 8(a) illustrates, anchoring around international human rights treaties is the strongest, with on average 2.65 mentions per statement. Also identified was the presence of collaboration-related terms—such as “collaboration,” “third party,” and “partner”—which appeared in approximately 50% of all statements (Figure 8(b)). This high percentage suggests some level of engagement or partnership outside the companies themselves.



FIGURE 8. USE PER STATEMENT OF TERMS IN THE “REPUTATION ENHANCEMENT” CONCEPT GROUP: (A) AS AN AVERAGE OVER ALL STATEMENTS; (B) IN TERMS OF PERCENTAGE OF COMPANIES THAT MENTION AT LEAST ONE TERM IN THE GROUPING.

These empirical results paint an interesting picture of how widely companies differ in their interpretation of their statutory disclosure obligations under the MSA. Based on the results from the topic modeling analysis and the in-depth analysis of the use of various concept and title groupings, it is clear that many companies go beyond the suggested concepts and use their MSA statements to make broader assertions about their approaches to considering the risks of human trafficking in their supply chains. A significant percentage of the corpus of statements also reference “anchor” concept groups associated with international human rights initiatives as part of that process (Table 2). Some companies appear to use a wide range of titles and the word count of their MSA statements¹⁴⁹ to signal higher organizational commitment to the motivating spirit behind the MSA. Yet, at the same time, a large percentage of companies also do not comply even with the minimal statutory requirement of reflecting board approval of the statement itself.¹⁵⁰

CONCLUSION

Although this analysis barely scratched the surface of the types of analytics that can be performed and the questions that can be considered with this methodology, the Authors hope that the foregoing demonstrates proof of concept for a machine learning approach in the human rights context that

149. See Technical Appendix, *infra*, Figure 9.

150. See *infra* note 151 and accompanying text.

offers considerable promise for broader future applications. The methodology of applying topic modeling and advanced text analytics can be used to help a variety of stakeholders (e.g., legislators, regulators, businesses, NGOs, suppliers, customers, and civil society) understand the results the MSA actually yielded.

That said, reporting data cannot be analyzed if it is not provided in the first place, which has proven to be a problem that limits the effectiveness of the MSA. Although filing an MSA statement is mandated by law, the fact that the mandate at present is not easily legally enforced appears to limit the seriousness with which some companies took even the limited statutory mandate.¹⁵¹ Only 62% contained the required reference to the company's board, which seems remarkably low for such a simple mandate.¹⁵² This suggests that some companies may see MSA statements as more akin to self-directed CSR communications, at least insofar as the communications themselves exceed the statutory minima. Although suboptimal from a compliance perspective, there is evidence that CSR communications ultimately influence company behavior, such that even “nudging” companies to consider trafficking issues will have long-term value.¹⁵³ For example, the “race to the top”¹⁵⁴ originally contemplated by the MSA's legislative drafters might be seen as being reflected in rankings spurring competition among industry peers to demonstrate greater and greater commitments to anti-trafficking efforts.¹⁵⁵

The UK government and other stakeholders should implement more effective measures to ensure that all covered companies perceive the “nudge.” Examples include specifying mandatory reporting categories, centralizing data collection, verifying whether statements have been issued by covered

151. See, e.g., MSA: Five Years of Reporting, *supra* note 61, at 2 (noting that “[d]espite six years of persistent non-compliance by two in five (40%) of companies, not one injunction or administrative penalty (such as exclusion from lucrative public procurement contracts) has been applied to a company for failing to report”) (emphasis in original).

152. *Id.* This dovetails with the Authors' findings that only 62% of statements made the necessary reference to the company board, for example. See *supra* note 140 and accompanying text.

153. See, e.g., Visa Pentilă, *Aspirational Talk in Strategy Texts: A Longitudinal Case Study of Strategic Episodes in Corporate Social Responsibility Communication*, 59 *Bus. & Soc'y* 67, 88–89 (2020) (noting that “[t]he creation of documents that establish aspirations raise expectations of future texts that will address whether and how such aspirations have materialized . . . documents therefore become a part of an ongoing cycle of organizational communications that keeps CSR issues on the agenda from year to year”); Schoeneborn, Morsing & Cane, *supra* note 125, at 15 (noting that “discrepancies between a firm's CSR communication and CSR practices should not be condemned prematurely as mere ‘green-washing’ Instead . . . such discrepancies are an important driver for organizational change and thus also larger social change. Especially when firms engage in prospective talk about their CSR aspirations (what they can be held accountable for later on), they pave the way for the materialization of these aspirations in and through CSR practices . . .”).

154. See MSA Practical Guidance, *supra* note 11, at 5.

155. See, e.g., Francis Churchill, *M&S is Best FTSE 100 for Tackling Modern Slavery*, SUPPLY MANAGEMENT (Oct. 23, 2018), <https://www.cips.org/supply-management/news/2018/october/ms-is-best-ftse-100-for-tackling-modern-slavery/> [<https://perma.cc/WP3D-GGG4>].

companies, and taking enforcement measures against those who fail to do so.

Much work remains in this important area relating to the violation of what unquestionably are fundamental human rights¹⁵⁶ in the modern global business supply chain. Admittedly, it can take many years for the “full impact” of a new law to become known.¹⁵⁷

The MSA’s reporting requirements have been in place only for a handful of years, and the data suggests that these reporting requirements may not be widely known or understood.¹⁵⁸ The substantive content of reports likely will evolve over time as the legal requirements are updated and industry awareness continues to grow.

There will also likely be structural changes to the MSA’s requirements in the future. Following an independent review by experts, who made eighty recommendations for reform,¹⁵⁹ the UK government has indicated that it will undertake a number of changes to the statute. In March 2021, the UK government created a government registry to house the statements, in contrast to the current requirement that statements merely be published on company websites or provided upon request.¹⁶⁰ Together with a uniform filing deadline,¹⁶¹ this should make it easier to determine whether or not a covered entity has generated and issued a responsive MSA statement.

A greater public commitment to regulatory enforcement also would send a clear message that the government takes seriously the corporate obligation to report about human trafficking. This could take the form of using more fully and creatively the policymaking authority vested in the Independent Anti-slavery Commissioner created by the MSA in the commercial setting,¹⁶² or responding specifically to high profile cases. Meaningful enforcement also may be linked to specific human rights situations around the globe. For example, in early 2021 the UK Foreign Minister released a public statement relating to the persecution of Uighur Muslims in China, many of whom had been relocated to vocational training centers, where they al-

156. See Universal Declaration of Human Rights, G.A. Res. 217 (III) A, U.N. Doc. A/RES/810 (Dec. 10, 1948), art. 4 (“No one shall be held in slavery or servitude; slavery and the slave trade shall be prohibited in all their forms.”).

157. Todres, *supra* note 78, at 95.

158. See 2019 Home Secretary Response, *supra* note 132, at ¶¶ 22–30 (discussing actions to address gaps in MSA reporting, both in terms of outright failures to issue the required statements as well as deficiencies in substantive reports themselves).

159. See 2019 Independent MSA Review, *supra* note 84.

160. See UK Home Office, *Government Launches Modern Slavery Statement Registry*, Gov.UK, (Mar. 11, 2021), <https://www.gov.uk/government/news/government-launches-modern-slavery-statement-registry>; MSA 2015, *supra* note 11, §§ 54(7), (8) (prior reporting provisions). Note that the UK government’s database incepts with 2020 filings, whereas the database created for this analysis covers the period 2016 to 19. See UK Home Office, *Guidance: Process for Submitting a Government Modern Slavery Statement*, Gov.UK, (May 6, 2021), <https://www.gov.uk/government/publications/process-for-submitting-a-government-modern-slavery-statement/process-for-submitting-a-government-modern-slavery-statement> (detailing filing requirements).

161. 2019 Home Secretary Response, *supra* note 132, ¶ 33.

162. See MSA 2015, *supra* note 8, §§ 40–44.

legedly have been subjected to extreme political “re-education” as well as forced labor. The Foreign Minister noted that companies doing business with firms operating in China’s Xinjiang region faced “a real risk of businesses and public bodies around the world—whether it’s inadvertently or otherwise—sourcing from suppliers which are complicit in the use of forced labour.”¹⁶³ Firms could be fined or barred from government contracts for failing to comply with the MSA’s disclosure obligations in relation to products sourced from Xinjiang.¹⁶⁴

The global supply chain crisis brought on by the Covid-19 pandemic certainly is having an impact on anti-trafficking priorities for the private sector, and obviously this should be accounted for in the process.¹⁶⁵ That said, the reporting requirements of the MSA are minimal and should be enforced, if for no other reason than the fact that the Covid-19 pandemic itself is making human trafficking far worse.¹⁶⁶

A harder question is how to improve the quality of statements provided. The independent governmental review suggested that many companies’ statements were merely perfunctory: “[w]hile [the MSA] has contributed to greater awareness of modern slavery in companies’ supply chains, a number of companies are approaching their obligations as a mere tick-box exercise”¹⁶⁷ The review therefore recommended, *inter alia*, that corporate reporting on all six of the optional topical areas become mandatory.¹⁶⁸

The machine learning analysis discussed above supports revising the MSA to require mandatory reporting on specified reporting areas, given the wide disparities in the interpretation of the statutory mandate around the types of information reported. But a number of indicators suggest that the MSA is suboptimal in other respects as well. For example, MSA statements vary considerably in their length, as well as their complexity and detail on which anti-trafficking topics are addressed, engagement by key corporate

163. See Charlie Hart, *Fines Threat for Slavery Law Non-Compliance*, SUPPLY MANAGEMENT (Jan. 12, 2021), <https://www.cips.org/supply-management/news/2021/january/firms-face-fines-for-slavery-law-non-compliance/> [https://perma.cc/V59D-BLTJ].

164. *Id.*

165. For example, one recent study of 500 managers of firms covered by the MSA found that “modern slavery remain[ed] a lower priority compared with commercial and operational concerns,” even as supply chain mapping increased as a consequence of the pandemic. Bruce Pinnington, Joanne Meehan & Alex Trautrim, *Implications of Covid-19 for Modern Slavery Challenges in Supply Chain Management*, MODERN SLAVERY AND HUM. RTS. POL’Y AND EVIDENCE CTR. at 5 (July 2021), <https://modern-slaverypec.org/assets/downloads/MSPEC-Supply-Chain-Management-Full-Report.pdf> [https://perma.cc/6G4Q-6KAT].

166. See, e.g., U.N. Off. on Drugs and Crime, *Impact of the Covid-19 Pandemic on Trafficking in Persons*, UNITED NATIONS (July 8, 2021), https://www.unodc.org/unodc/en/frontpage/2021/July/covid-19-and-crime_-the-impact-of-the-pandemic-on-human-trafficking.html [https://perma.cc/8XZ3-B4W4].

167. 2019 Independent MSA Review, *supra* note 84, ¶ 15.

168. *Id.* at 23, Recommendation 18 (suggesting changes to MSA § 54(5) whereby the optional “may” should be changed to “must” or “shall”, with the effect that the six areas set out as areas that an organisation’s statement may cover will become mandatory. If a company determines that one of the headings is not applicable to their business, it should be required to explain why.”).

actors and officers, and in many other respects. These disparities arise even though those MSA statements were generated pursuant to identical statutory requirements.

This finding itself is counter-intuitive. As a general matter, legislative texts should be understood and followed in a similar way by all to whom their legal requirements apply. Indeed, this is one benefit of lawmaking through statute, as opposed to common law evolution through the courts. Such uniformity is a fundamental predicate of statutory interpretation, as noted in formal guidance for legislators¹⁶⁹ as well as case law on statutory interpretation.¹⁷⁰ Businesses even seek to create uniform laws themselves through lobbying in order to achieve regulatory consistency.¹⁷¹ By effectively allowing corporate reporters to “opt out,” the UK government limited the data generated to those topics that companies felt most comfortable discussing (i.e., topics which reflected well on the company and bolstered its reputation). This created a significant gap in the information available to assess how meaningfully companies actually take their anti-trafficking commitments.

The analytic disparities and information gaps suggest that a fundamental predicate of the UK’s legislative approach may have been flawed. The government’s original expectation was that “consumers, investors and Non-Governmental Organizations [will] engage and/or apply pressure where they believe a business has not taken sufficient steps.”¹⁷² Theoretically, accountability in the court of “public opinion” should help to reduce incidences of trafficking.¹⁷³ Rather than specifying reporting metrics, the UK legislators sought “to create a race to the top by encouraging businesses to be transparent about what they are doing, thus increasing competition to drive up standards.”¹⁷⁴ Some criticize this approach as insufficient, arguing that although disclosure is necessary, laws like the MSA nevertheless have

169. See, e.g., CONG. RSCH. SERV., STATUTORY INTERPRETATION: THEORIES, TOOLS, AND TRENDS, R45153, at 23 (2018) (noting that “[c]ourts will generally try to give identical terms the same meaning throughout a statute”).

170. See, e.g., *Roberts v. United States*, 572 U.S. 639, 643 (2014) (“Generally, ‘identical words used in different parts of the same statute are . . . presumed to have the same meaning’” (quoting *Merrill Lynch, Pierce, Fenner & Smith Inc. v. Dabit*, 547 U.S. 71, 86 (2006))); *Rowan Companies, Inc. v. United States*, 452 U.S. 247, 257 (1981) (noting that “substantially identical” statutory language should be interpreted uniformly by agencies enforcing those statutes).

171. See, e.g., Esther Slater McDonald, *Industries Seek Uniform Federal Privacy Law to Preempt Inconsistent Patchwork of State Laws*, THE GLOBAL PRIVACY WATCH (July 15, 2019), <https://www.globalprivacywatch.com/2019/07/industries-seek-uniform-federal-privacy-law-to-preempt-inconsistent-patchwork-of-state-laws/> [<https://perma.cc/6FLT-8CY6>].

172. MSA Practical Guidance, *supra* note 11, at 6.

173. Alison Peters, *Checking In: How Soft Law and Corporate Social Responsibility are Filling Governance Gaps to Combat Human Trafficking in the Global Travel and Tourism Industry*, 49 GEO. J. INT’L L. 1487 (2018).

174. MSA Practical Guidance, *supra* note 11, at 5.

failed so far to yield any real impact in preventing human trafficking in the supply chain.¹⁷⁵

As an initial step, the UK Home Secretary already has agreed in principle to strengthen the reporting requirements, though details have not yet been provided.¹⁷⁶ The government noted that further consultation is needed to “consider how to retain enough flexibility to accommodate the diversity of organisations in scope of the legislation as well as how best to ensure alignment of the UK’s legislation with the requirements of other jurisdictions.”¹⁷⁷ The government also equivocated on recommendations that would strengthen enforcement of the MSA’s compliance provisions.¹⁷⁸ No specific timeline exists; instead, legislative updates to the MSA will occur “as soon as Parliamentary time allows.”¹⁷⁹

The implications extend beyond more effectively revising the MSA itself, however, because large, global companies that transact business around the world often are covered by trafficking disclosure regulations in multiple jurisdictions. For example, the UK’s experiment with an open-ended approach stands in contrast to a California anti-trafficking disclosure law that preceded the MSA by five years. The California Transparency in Supply Chains Act specifies five *mandatory* topics on human trafficking risks in the supply chain that statements must address:

1. Verification of product supply chains to evaluate and address risks of human trafficking and slavery, and disclosure if such verification was not conducted by a third party.
2. Auditing of suppliers to evaluate compliance with company standards for trafficking and slavery in supply chains, and disclosure if verification was not based on an independent, unannounced audit.
3. Certification by direct suppliers that materials incorporated into products comply with the laws regarding slavery and human trafficking of the country or countries in which they are doing business.

175. Business & Human Rights Resource Centre, *supra* note 59, at 3 (arguing that “transparency is necessary but relying on voluntary disclosure is insufficient to prevent even the worst forms of labour abuse”).

176. See 2019 Home Secretary Response, *supra* note 132, ¶¶ 22–30.

177. *Id.* at ¶ 28.

178. *Id.* at ¶ 36 (stating that “the introduction of any new enforcement measures would need to be gradual, consistent with growing business awareness and the Government’s continuing efforts to encourage this”). See *also id.* (noting that the government wanted “to avoid any unintended consequences—such as creating an overly compliance driven approach which might disincentivise disclosure of risks identified”).

179. *Id.* at ¶ 21. At the time of writing, at least one formal proposal has been introduced. See Modern Slavery (Amendment) Bill 2021-2, HL Bill [32] cl. 1 (Gr. Brit.) (describing the Bill as aiming to “prohibit the falsification of slavery and human trafficking statements; to establish minimum standards of transparency in supply chains in relation to modern slavery and human trafficking; to prohibit companies using supply chains which fail to demonstrate minimum standards of transparency; and for connected purposes”).

4. Internal accountability standards and procedures for employees or contractors failing to meet company standards regarding slavery and trafficking.
5. Training on human trafficking, slavery, and risk mitigation for company employees and management with direct responsibility for supply chain management.¹⁸⁰

California's law is less broadly applicable in the global setting, in that it is a state law within the United States, as opposed to a federal law. Its application is also restricted to companies conducting business in California who self-identify on their tax returns as retail sellers or manufacturers and who have annual worldwide gross receipts of USD\$100 million or more.¹⁸¹ That said, California's law provides significantly more guidance to reporting companies on what they must include in their anti-trafficking disclosure statements.¹⁸²

California is not alone in making certain disclosure topics mandatory. Perhaps as part of an emerging global trend toward increased corporate reporting around human rights obligations,¹⁸³ more recent laws and legislative proposals on corporate reporting around human trafficking also make these kinds of specific parameters mandatory. Australia's 2018 law, for example, requires disclosure of slavery and trafficking-related topics such as risk assessment, due diligence and remediation, and the effectiveness of mitigation strategies undertaken.¹⁸⁴ And since 2017, a broad duty of human rights "vigilance" imposed on large French companies and companies doing business in France certainly would include human trafficking, though the duty is broader and mandates due diligence and risk mitigation as well as disclosure.¹⁸⁵

180. See CTSCA 2010, § 3, *supra* note 85.

181. *Id.* at § 3(a)(1).

182. For a more detailed comparison of the MSA and CTSCA, see Julia Planitze, *Trafficking in Human Beings for the Purpose of Labour Exploitation: Can Obligatory Reporting by Corporations Prevent Trafficking?*, 34 NETH. Q. HUM. RTS. 318 (2016).

183. See, e.g., Rae Lindsay, Anna Kirkpatrick & Jo En Low, *Hardly Soft Law: The Modern Slavery Act 2015 and the Trend Towards Mandatory Reporting on Human Rights*, 18 BUS. L. INT'L 29 (2017).

184. See Australia MSA 2018, § 16(1), *supra* note 86 (setting forth mandatory criteria for statements). Australia's reporting threshold is AUS \$100 million. *Id.* at § 3. For more details on Australia's requirements, see Australian Government Department of Home Affairs, *Commonwealth Modern Slavery Act 2018 Draft Guidance for Reporting Entities*, <https://www.homeaffairs.gov.au/criminal-justice/files/modern-slavery-reporting-entities.pdf> [<https://perma.cc/KU7J-9DV7>] (providing more detailed commentary for reporting on required topics of organizational structure, operations, and supply chains).

185. See Loi 2017-399 du 27 mars 2017 relative au devoir de vigilance des sociétés mères et des entreprises donneuses d'ordre [Law 2017-399 of March 27, 2017 on the Corporate Duty of Vigilance], translated in *The Responsible and Ethical Private Sector Coalition against Trafficking*, <https://respect.international/french-corporate-duty-of-vigilance-law-english-translation/> [<https://perma.cc/8W4E-K442>] (requiring corporate plans that specify "reasonable vigilance measures to allow for risk identification and for the prevention of severe violations of human rights" as well as risk mapping and mitigation measures in the supply chain). For a detailed discussion of the French law, see Elise Groulx Diggs, Mitt Regan & Beatrice Parance, *Business and Human Rights as a Galaxy of Norms*, 50 GEO. J. INT'L L. 309 (2019).

It is critical to ascertain and legislatively prescribe the right balance of obligatoriness versus selective reporting because significant development in this arena is on the near horizon in a number of other jurisdictions. Apart from stalled federal legislation in the United States,¹⁸⁶ for example, regulation around supply chain disclosures also is being considered at the state level.¹⁸⁷ Legislation pending in Canada also mandates reporting on the company's structure and business, policies, forced labor risks and mitigation and remediation efforts, and training initiatives.¹⁸⁸ Similar proposals are pending in Hong Kong¹⁸⁹ and other countries.¹⁹⁰ Supply chain disclosures also may arise from broader forthcoming human rights mandates not specific to modern slavery, such as the EU directive requiring member states to enact legislation requiring large public interest entities to report on non-financial issues such as human rights.¹⁹¹ Other proposals in the EU would create specific (and mandatory) human rights due diligence obligations that would apply throughout the Union.¹⁹²

186. See Business Supply Chain Transparency on Trafficking and Slavery Act of 2015, H.R. 3226, 114th Cong., 1st Sess., Jul. 27, 2015, § 3 (proposing amendments of the Securities Exchange Act of 1934 focused on mandatory "Disclosures relating to efforts To combat the Use of Forced Labor, Slavery, Trafficking in Persons, or the Worst Forms of Child Labor").

187. See Uniform Law Commission, Supply Chain Transparency Committee (2020), <https://www.uniformlaws.org/committees/community-home?CommunityKey=8b5ff376-8537-41c9-8dfb-928fd271d406> [<https://perma.cc/L6BC-KDWF>] (considering "the need for and feasibility of state legislation dealing with transparency in the context of international supply chains . . . dealing with reporting requirements for businesses with respect to human trafficking, child labor, or substandard production and facility standards . . .").

188. See Senate of Canada, Bill No. S-211, An Act to enact the Modern Slavery Act and to amend the Customs Tariff, First Session, Forty-third Parliament, 68 Elizabeth II, 2019-2020, Feb. 5, 2020, §7(2) (Can.), <https://www.parl.ca/DocumentViewer/en/43-1/bill/S-211/first-reading/#ID0EZA> [<https://perma.cc/FLG2-NCWG>].

189. See Legislation to Criminalize All Forms of Slavery and Human Trafficking in Hong Kong, LC Paper No. CB(2)765/17-18(01), Jan. 11, 2018, art. 11 (H.K.), <https://www.legco.gov.hk/yr17-18/chinese/panels/se/papers/secb2-765-1-ec.pdf> [<https://perma.cc/ZXC4-7QFA>].

190. See Claire Methven O'Brien, *Transcending the Binary: Linking Hard and Soft Law Through A UNGPs-Based Framework Convention*, 114 AM J. INT'L L. UNBOUND 186, 186-87 (2020) (discussing, *inter alia*, proposals in Switzerland, Finland, and Germany relating to child labor and due diligence around human rights). See also Bill, Responsible and Sustainable International Business Act, No. 35761, May 6, 2021 (Neth.), <https://www.tweedekamer.nl/kamerstukken/wetsvoorstellen/detail?id=2021Z04465&dossier=> [<https://perma.cc/CWQ6-TUSL>] (proposing in the Dutch Parliament legislation, sponsored by four major political parties, that would impose duty of care on all Dutch companies to address human rights violations in their value chains).

191. See Directive 2014/95/EU, of the European Parliament and of the Council of 22 October 2014, amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups, No. L 330/1, Nov 15, 2014, art. 19(a)(1) (requiring "a non-financial statement containing information to the extent necessary for an understanding of the undertaking's development, performance, position and impact of its activity, relating to, as a minimum, environmental, social and employee matters, respect for human rights").

192. See Cecilia Navarra, *Corporate Due Diligence and Corporate Accountability* 6, European Value Added Assessment, EUR. PARLIAMENTARY RSCH. SERV. (Oct. 2020) [https://www.europarl.europa.eu/RegData/etudes/STUD/2020/654191/EPRS_STU\(2020\)654191_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/654191/EPRS_STU(2020)654191_EN.pdf) [<https://perma.cc/2MPS-QFQE>] (reporting findings of formal EU study suggesting that mandatory due diligence requirements would likely increase compliance with international human rights standards). See also Lise Smit et al., *Final Report, European Commission Study on Due Diligence Requirements Through the Supply Chain*, Feb. 2, 2020, <https://op.europa.eu/en/publication-detail/-/publication/8ba0a8fd-4c83-11ea-b8b7->

As government officials, NGOs, advocates, and scholars seek to follow and understand the moving target created by the rapid expansion of anti-trafficking corporate disclosure requirements across the globe, the ability to draw upon new tools will become increasingly important. Natural language processing and other machine learning techniques can help to measure and assess the impact of these laws over time. These new methods also can identify useful topics for further inquiry as well as further insights about the optimal legislative approach, including the pros and cons of open-ended invitations for businesses to discuss selected topics of most importance to themselves (like the MSA), as compared to more formalized statutory requirements on exactly what and how companies must report (like the California and Australian laws).

The approach outlined herein provides a number of opportunities for future research as the law continues to evolve over time. With respect to the MSA itself, it will be interesting to analyze whether, and how, the substantive content of MSA statements changes when the “suggested” reporting areas become regulatory mandates. Second, as noted above, a number of other jurisdictions have enacted or are enacting their own human trafficking disclosure regimes. Once a sufficient corpus of statements is generated, the techniques described above could be applied on a comparative basis. This would enable the end results of different types of human trafficking disclosure approaches to be compared and contrasted, hopefully leading to new insights on which methods yield the best results, and thus informing further domestic legislation in other jurisdictions or at the international level (through, for example, treaty-making processes at the United Nations).

The methodology discussed in this Article also has far broader regulatory application to other legal contexts, in that it provides an alternative methodology that can help to shape future understanding of the body of information generated pursuant to statutory mandates. Although the present effort focuses on anti-trafficking disclosures, similar machine learning techniques could be applied to better understand the corpus of reported output from *any* social-facing law where some form of public corporate disclosure documents are generated. This can provide valuable empirical—as opposed to anecdotal—feedback for legislators and regulators on whether a law is working as intended or whether changes are necessary.

Although it seems clear that disclosure of corporate efforts to redress human trafficking in the global supply chain is an important piece of the puzzle, such measures by themselves cannot serve as a complete solution to the problem. This initial sketch of empirical findings and observations on

01aa75ed71a1/language-en [https://perma.cc/K58T-RPVX]. The EU already has a draft convention that requires members to ensure that corporations can be held liable for trafficking offenses committed at their behest or on their behalf. See Council of Europe Convention on Action against Trafficking in Human Beings, Council of Europe T.S. No. 197, May 16, 2005, art. 22 (corporate liability).

corporate approaches to this topic also hopefully will spur further dialogue on whether reporting obligations under the MSA and similar laws lead to companies “walking the walk”—actually implementing the commitments undertaken—when it comes to upholding widely-shared global commitments to abolish modern slavery and human trafficking in all of their forms.

TECHNICAL APPENDIX

A. *Data Collection, Organization, and Preprocessing*

The data set for this research project covered MSA statements submitted by companies for 2016 to 2019, approximately the first four reporting years after the MSA became effective in 2015.¹⁹³ Links to individual company statements were retrieved from the nonprofit Business and Human Rights Resource Centre, which has done yeoman's work in collecting links to published MSA statements and hosting a unique public repository for them.¹⁹⁴ The database created by the Authors was derived by downloading statement content from more than seventeen thousand websites.

After discarding broken links and statements that could not download successfully, 13,484 usable MSA statements remained. These statements covered the period from 2016 to 2019 and came from companies across seventy industries. The industries were sorted in decreasing order by number of statements available. The top thirty-five industries were retained, so that at least one hundred statements were available for analysis from each industry. This reduced the total data set to 9,457 statements. Table 1 and Figure 9 present descriptive summaries for the statements in the data set, including number of statements available per industry and average length of statement (number of terms) for each industry represented in the sample.

193. The absence of a uniform publication or filing date means that the dataset is somewhat uneven, with different companies adopting different reporting periods and report update schedules.

194. Business & Human Rights Resource Centre, *Modern Slavery Act*, <https://www.business-humanrights.org/en/from-us/modern-slavery-statements/> [https://perma.cc/GC2R-UYC4].

TABLE 1. NUMBER OF STATEMENTS FROM EACH INDUSTRY INCLUDED IN THE DATA SET.

Industry	Number of Statements
Professional Services	801
Commercial Services & Supplies	626
Specialty Retail	492
Capital Markets	472
Media	472
Construction & Engineering	440
Insurance	430
Hotels, Restaurants & Leisure	428
Diversified Financial Services	399
Real Estate Management & Development	380
Food Products	369
Oil, Gas & Consumable Fuels	273
Diversified Consumer Services	269
Machinery	225
Distributors	210
Health Care Providers & Services	207
Household Durables	201
Textiles, Apparel & Luxury Goods	199
Charity/Non-Profit	190
Food & Staples Retailing	188
Trading Companies & Distributors	185
Banks	180
IT Services	179
Electronic Equipment, Instruments & Components	170
Public Entities	166
Software	165
Air Freight & Logistics	156
Energy Equipment & Services	149
Chemicals	148
Road & Rail	128
Metals & Mining	121
Building Products	118
Marine	113
Health Care Equipment & Supplies	108
Electrical Equipment	100

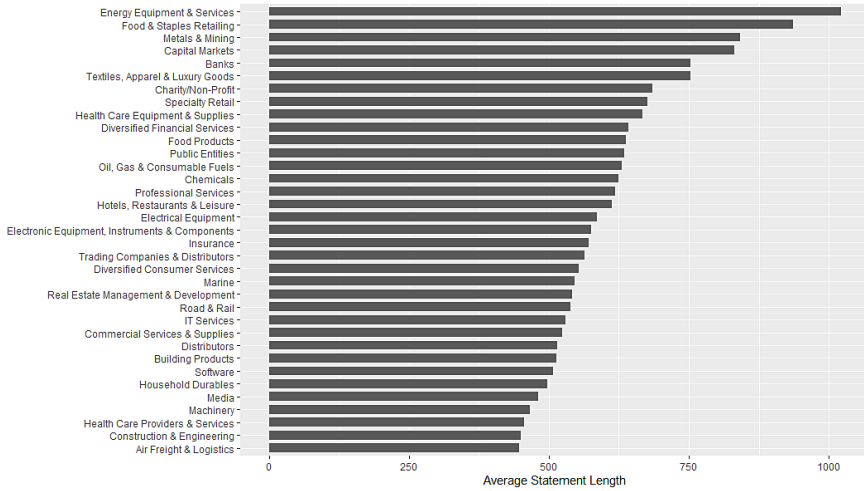


FIGURE 9. SORTED BAR CHART OF AVERAGE STATEMENT LENGTH FOR EACH INDUSTRY IN THE SAMPLE.

The statements were downloaded from different websites in multiple formats, including html and pdf, converted to single spelling (American English), cleaned, and organized in a large database. All words were converted to lowercase, numbers were removed, and a vocabulary of terms appearing in the corpus of statements was generated. Co-occurrences of words (“n-grams”) were analyzed to identify combinations that carried specific meaning. The data then were recoded to include composite terms in the dictionary. Common English words such as “the” were removed using the SMART framework,¹⁹⁵ and the remaining terms were summarized in a document-term matrix (“DTM”) where each row represents a document, in which each column represents a term, and the matrix entry corresponds to the number of occurrences of the term in the document. The DTM was then used for some of the detailed term and topic analysis described next.

B. Methodology

Once the data was preprocessed for analysis, visualizations such as Word-Clouds were employed in tandem with topic modeling¹⁹⁶ to identify meaningful themes. In topic modeling, documents are represented as a mixture of topics, and topics are represented as a mixture of words. The algorithm outputs the topics extracted from the data (as sequences of notable words

195. See Gerard Salton, Andrew Wong & Chungshu Yang, *A Vector Space Model for Automatic Indexing*, 18 COMM. OF THE ACM 613 (1975).

196. See, e.g., Blei, Ng & Jordan, *supra* note 31.

within the topic), as well as estimates of the expected topic proportions in each document and the corpus overall. It is possible to use other NLP techniques; however, topic modeling is an appropriate technique to use in this setting, where each document (MSA statement) can be assumed to be composed of several themes that occur to different extents in other documents.

As part of the process of extracting meaningful topics, n-grams (contiguous sequences of N words, where “N” is the number of words in the sequence)¹⁹⁷ were generated from the text corpus to determine frequently observed combinations of terms, and were coded consistently. For example, the three-gram “corporate social responsibility” was coded as the single term “csr,” and several equivalent combinations of terms related to risk management (“risk and safety management,” “risk management,” and “rsm”) were replaced with the same term, “riskmanagement.”

The analysis iterated between rerunning the topic modeling analysis and coding the data to bring together equivalent terms. Once the topics were finalized, the insights were interpreted in the context of Dimension (1) (MSA statutory requirements) and Dimension (3) (reputation enhancement), as outlined in Part III, *supra*.

Topics identified by topic modeling algorithms are non-predefined, in the sense that the topic is produced first and then a concept match is identified. In contrast, traditional observation and survey methods predetermine the concepts and code information manually by human researchers. To complement the findings of the topic modeling analysis, text analytics techniques were used to summarize the occurrence frequencies of the different concepts in documents, thus incorporating important principles of traditional qualitative research as well.

A representative list of terms was generated that related to:

1. Concepts derived from the five themes suggested by the MSA itself¹⁹⁸ (the “Suggested” group of concepts):
 - *Company structure, business and supply chains*: business relationships, business partners, business practices, supply chain, supplier
 - *Company policies in relation to slavery and human trafficking*: corporate social responsibility, business integrity, code of ethics, whistleblowing policy, policies and procedures, supplier relationship management, corrective action or remediation
 - *Company due diligence processes*: due diligence, code of conduct, laws and regulations

197. See, e.g., Li, *supra* note 20, at 102.

198. MSA 2015, § 5, *supra* note 8.

- *Risk assessment and management*: risk, risk assessment, risk and safety management, risk management, systems and controls, monitoring, review
 - *Effectiveness*: variations on the term “effective”
 - *Measurements*: key performance indicators, measures, metrics, standards, norms
 - *Training*: variations on the term “training”; and
2. Eight human rights “anchor” themes *not* suggested by the MSA statute (the “Anchor” group of concepts):
- Globally-recognized international human rights treaties, such as the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, or the Convention on the Rights of the Child
 - Key regional international human rights treaties, such as the European Convention on Human Rights
 - International treaties that specifically prohibit slavery or which focus on workers’ rights, such as the Palermo Protocol, the ILO’s Forced Labour Convention, or the Migrant Workers Convention
 - United Nations offices and agencies focused on human rights, such as the UN Office of the High Commissioner on Human Rights or the UN Human Rights Council
 - Anti-trafficking programs and initiatives at the international level, such as the UN’s Global Plan of Action to Combat Trafficking in Persons
 - The United Nations Global Compact
 - The United Nations Sustainable Development Goals; and
 - The United Nations Guiding Principles on Business & Human Rights.

As a final step, the analysis was refined and validated by reviewing samples of statements to confirm initial observations, consulting surveys conducted on the related topic of how the MSA has been implemented in companies, and referencing other data analyses of corporate efforts to address human trafficking.¹⁹⁹

In order to verify the findings, the Authors took a more traditional qualitative research perspective with an NLP twist: They coded the relevant concepts and then delved deeper into the use of specific terms in MSA statements that describe these concepts. The core themes identified by topic modeling²⁰⁰ are listed in Table 2, *infra*. The Authors excluded “catch-all” uninformative topics like contact details from company websites and generic website disclaimers. The prevalent words in each topic were deter-

199. See, e.g., Lake et al., *supra* note 25.

200. See Blei, Ng & Jordan, *supra* note 31, at 993.

mined according to several widely used metrics, such as highest probability (most common), FREX (a weighted metric of how common and how exclusive to the topic the word is), and score (a metric of how often the word happens in the particular topic versus other topics). Based on these listings in the first column of Table 2, one can label the different themes that emerge.²⁰¹

201. For possible approaches on labeling topics, *see, e.g.*, Erzurumlu & Pachamanova, *supra* note 34.

TABLE 2. REPRESENTATIVE TOPICS DERIVED WITH TOPIC MODELING ANALYSIS.

	Topic Word Listing	Label
1	<p>Highest Prob: supplier, modernslavery, supplychain, risk, ethical, training, labor, workers, work, business, products, working, year, issues, sourcing, group, statement, audits, policiesandprocedures, key</p> <p>FREX: seafood, coop, unseen, growers, traceability, stronger, homeworkers, supermarkets, cocoa, tier, fresh, kingfisher, factories, foods, factory, raw, farmers, ethicalsourcing, farms, ownbrand</p> <p>Score: workers, supplychain, factories, supplier, food, stronger, factory, worker, labor, risk, sourcing, stores, coop, colleagues, ethical, foods, cocoa, audits, tier, seafood</p>	ethical sourcing in the supply chain, audits
2	<p>Highest Prob: supplier, compliance, risk, codeofconduct, business, employees, solutions, training, global, supplychain, management, ethics, products, standardsnorms, high, program, businessrelationships, ensure, human, applicable</p> <p>FREX: businessintegrity, codeofethics, vendors, minerals, fiscal, qualification, human, evaluation, lawsandregulations, vendor, solutions, performed, violations, ethics, indirect, establishes, involuntary, conducts, foreign, channel</p> <p>Score: supplier, businessintegrity, solutions, sqq, codeofconduct, laborrights, risk, codeofethics, ethics, lobbyists, human, violations, vendor, vendors, employees, products, businessrelationships, supplychain, qualification, applicable</p>	compliance, laws and regulations, code of conduct
3	<p>Highest Prob: policiesandprocedures, supplier, modernslavery, employees, humantrafficking, labor, supplychain, business, slavery, work, organization, company, ensure, forced, employment, statement, standardsnorms, workers, ethical, recruitment</p> <p>FREX: safeguard, termination, organization, persons, preferred, suspect, suspicion, dignity, encompasses, treat, transparent, agencies, treated, reprisals, strives, servitude, misconduct, compulsory, dismissal, verifies</p> <p>Score: humantrafficking, labor, forced, workers, supplier, policiesandprocedures, employees, slavery, organization, supplychain, recruitment, employment, employee, practices, compulsory, agencies, staff, exploitation, fear, wage</p>	policies and procedures with regard to ethical employee recruitment, standards and norms
4	<p>Highest Prob: humantrafficking, supplychain, slavery, supplier, business, statement, modernslavery, group, policiesandprocedures, risk, ensure, place, msa, year, part, services, review, training, financial, steps</p> <p>FREX: cpl, antislavery, whistle, occurring, constitutes, enforcing, mitigate, systemscontrols, pursuant, humantrafficking, parent, ethically, reflects, taking, slavery, blowers, acting, ending, combating, implementing</p> <p>Score: humantrafficking, supplychain, slavery, cpl, supplier, risk, antislavery, group, ensure, systemscontrols, policiesandprocedures, mitigate, ethically, taking, constitutes, part, enforcing, pursuant, occurring, act</p>	risk management, supplier review
5	<p>Highest Prob: humanrights, supplier, risk, modernslavery, business, labor, including, supplychain, code, policiesandprocedures, sustainability, group, principles, statement, global, forced, work, operations, employees, respect</p> <p>FREX: impacts, exploration, unitednations, humanrights, elimination, sustainability, underage, code, bps, respecting, unguidingprinciples, efforts, corrective, abuses, selfassessments, systematic, amnesty, globalcompact, expectations, prohibits</p> <p>Score: humanrights, laborrights, labor, sustainability, supplier, forced, risk, code, unitednations, supplychain, globalcompact, principles, oil, bps, unguidingprinciples, exploration, impacts, childlabor, humantrafficking, contractors</p>	UN guiding principles, Global Compact, human rights