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Social listening, modern slavery, and COVID-19

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ABSTRACT

In addition to the public health crisis visited upon the world, the COVID-19 pandemic has created unique uncertainties for organisations engaged with the United Nations Sustainable Development Goals (SDGs), spanning a range of matters, such as maintaining operational momentum, financial sustainability, achieving policy influence, and engaging in strategic communications. In this article, we focus on organisations engaged in the fight against modern slavery, a significant part of Sustainable Development Goal 8, which seeks to 'promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all' with a particular focus on the call for states to '[t]ake immediate and effective measures to ... end modern slavery' (SDG 8.7). Our analysis highlights the importance of 'social listening' during the temporal and spatial progression of COVID-19 to: (a) facilitate the identification of agenda proxies reflected in strategic communications used by anti-slavery organisations, and (b) to provide insights into changing communication tactics deployed by these organisations in the context of mass-communication using social media as a result of the global pandemic.

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1. Introduction

The COVID-19 crisis has triggered a wave of policy advisory and thought-leadership commentary across the broad spectrum of the 17 United Nations Sustainable Development Goals (SDGs) (United Nations SDGs Knowledge Platform 2020). The goals are comprehensive in addressing significant developmental challenges facing the world, with over 160 targets and 231 agreed indicators (United Nations 2017). Of these different goals, SDG 8 seeks to '[p]romote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all,' while SDG Target 8.7 asks member states to '[t]ake immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms.'¹

The problem of modern slavery has increased in saliency and general awareness since the 1990s and has found increased attention in the last decade as a result of concerted efforts from anti-slavery organisations and stakeholders at the international, regional, and national levels. The International Labour Organization and the Walk Free Foundation (2018) recently estimated that there are 40.3 million enslaved people in the world, while systematic analysis of anti-slavery domestic legislation reveals between 62 percent and 90 percent of countries in the world have

ratified the core international instruments on slavery and forced labour, even though 47 percent of countries have ‘no provisions criminalising slavery or the slave trade’ (Schwarz and Allain 2020; Landman 2020).

The outbreak of COVID-19 in late 2019 and its progression over time and space, as well as the variation in response from governments and the severe economic downturn in the global economy (see: Landman and Splendore 2020), has posed increased risks to those already enslaved and those vulnerable to slavery (see: United Nations SDSN 2020), and has significantly disrupted the ability and capacity for anti-slavery organisations to carry out their work to help end modern slavery in line with the aspirations of SDG 8.7. The UN Special Rapporteur on contemporary forms of slavery reports (United Nations Special Rapporteur 2020) that the spread of COVID-19 increases the risk of vulnerability to modern slavery as states struggle to provide appropriate protections, private businesses seek ever cheaper forms of labour, and criminal organisations exploit the crisis for illegal gain.

In short, the pandemic has had a significant impact on freedom of movement, freedom of association, severe restrictions on economic freedom, business operations, the ability for countries to conduct genuine and transparent elections, and other organisational activity that comprise many of the socio-economic dimensions that underpin the SDGs. As a significant dimension of the SDGs, the phenomenon of modern slavery focuses on some of the world’s most vulnerable people (see: United Nations SDSN 2020), who have been the subject of significant social mobilisation and advocacy from non-governmental organisations that form part of larger ‘transnational advocacy networks (Keck and Sikkink 1998; Risse, Ropp, and Sikkink 1999, 2013), where the anti-slavery movement comprises thousands of organisations around the world working to realise the aims of SDG 8.7 (Bryant and Landman 2020).

A key tool in these organisations’ arsenal is the use of strategic communications and the articulation of coherent ‘frames’ to which their audiences for action will be receptive, while a key medium for such communications are different social media platforms available, such as Twitter, Facebook, and Instagram, among others. Framing modern slavery in legible discourses allow for organisations to ‘market’ their mobilisations (see: Bob 2005; Bennett and Segerberg 2013), attract the attention of like-minded organisations, advocate for change, sustain collective action, and attract new sources of income to maintain financial sustainability needed to fuel their work.

Thought-leadership developments and strategic communications from these organisations and other stakeholders are helping researchers and policy makers to navigate and prioritise the vast array of issues affecting those enslaved, and the issues which could create newly enslaved people (Anti-Slavery International 2020; Council on Foreign Relations 2020; International Labour Organization 2020; Trodd 2020; World Economic Forum 2020), as part of a broader collection of efforts to mitigate the socio-economic effects of the COVID-19 crisis, alongside managing the central global public health crisis. Other recent works meanwhile are assisting with the communications effort – supporting the strategy formulation and quality assurance behind the deployment and management of various information flows set up to help society at this time (e.g. Balog-Way and McComas 2020; Krause et al. 2020; Ruii 2020).

Selected current examples of issues falling within the remit and goals of organisations engaged in the fight against modern slavery, and represented within campaigns during COVID-19 include: (a) global supply chain shocks and risk exposures involving the emergence of human rights abuses within opaque supply chains and potential mass-international labour displacement (*New York Times* 2020; Thomson Reuters Foundation 2020a) (e.g. #supplychains and #alleyeson-fastfashion), (b) the emergence of new risks for already vulnerable immigrant populations, displaced people and migratory workers, spanning shifts in NGO support, and new COVID-19 contagion risks, among other themes (*The Guardian* 2020b; *The Guardian* 2020d; IHRB 2020; Reuters 2020) (e.g. #immigration and #wetogether), (c) domestic-societal risks around reported spikes in instances of domestic violence and domestic abuse (*The Guardian* 2020e) (e.g. #domesticviolence, #domesticslavery, #genderbasedviolence and #internationaldomesticworkersday), and

(d) the increased vulnerability of homeless people to exploitation and trafficking (Simon on the Streets 2020) (e.g. #homelessness, #shelters and #runawayyouth).

In addition to the global public health catastrophe, and the various potential humanitarian risks and crises stemming from it, another challenge for researchers and policy makers, and where guidance is missing, is managing a sudden surge in COVID-19-related information diffusion (Yi and Kuri 2016; Cinelli et al. 2020; Garrett 2020). In the broader COVID-19 context, this includes rapidly formed spikes in data generated by public information search (e.g. for information on Coronavirus symptoms, public health updates and lockdown supplies among other themes – see: Lucas, Elliot, and Landman 2020), through to the dominance of COVID-19 related issues in social media discussion, news media headlines, and the strategic communications from for-profit and not-for-profit organisations around the world (e.g. The Guardian 2020a). Within these data streams is held substantial information about how organisations of different types formulate strategic communications and engage in specific communication tactics, representing their operational agendas, during times of crisis – although substantial work is involved in sifting through it.

Such ‘sifting’ work is often more akin to a process of ‘gold panning’ rather than ‘gold mining,’ with online communications data often characterised by the presence of substantial ‘noise’ that obscures the importance of ‘signals’ (see: Silver 2012 for an extended discussion). This veritable sea of data poses a challenge for NGOs, charities, activist organisations, and government bodies in particular, who are resource and time constrained, but who are also reliant on real-time tailored communication and proactive social listening² strategies in order to update and maintain their core agendas and objectives. This includes the rapid adaptation of messages, as well as the need to build capacity in understanding the specific territory of the digital communications landscape within which they operate (i.e. with the aim of reducing uncertainty via a broadened idea of available information).

To this end, our article proposes a social listening framework that focuses in particular on the power of data science and data visualisation to aid computational social science research (see: Healy and Moody 2014), with an emphasis on demonstrating the value of combining scaled data collection with human interpretation and commentary. This centres on customising data collection, manipulation, analysis and visualisation within the R environment. – giving researchers the ability to provide end-to-end tailored analysis applied to specific research contexts (i.e. rather than relying on pre-packaged dashboard tools). We coin the term ‘neo-interpretivism’ to describe this approach: where practical, data-driven insight is paired with human interpretation of a given empirical scenario as a precursor to deeper inductive and deductive research.

We focus specifically on social movement organisations working to fight modern slavery – examining their Twitter communications as they seek to maintain message salience and consistency, as a gauge of operational stability and agenda maintenance, whilst also rapidly adapting to new environmental challenges posed by COVID-19. More specifically, we zoom in on the communicative mechanisms used by this active social movement – examining the most high-level shifts in Hashtag usage and core semantics during COVID-19.

Importantly, we characterise the broader present-day digital strategic communications landscape as itself shaped by COVID-19-induced uncertainty and risk – with various actors engaged on the frontlines of grand challenges competing for audiences, including policymakers, commercial organisations, the news media, and the general public. We set this against a backdrop of organisation-side risk, triggered by selective exposure effects, where the audience for a given set of strategic communications actively and passively selects the causes and messages with which they engage – potentially giving rise to a ‘drowning-out’ effect on core message salience, and thus having implications both for frame *reinforcement* and frame *dilution* (see: Benford and Snow 2000; Bob 2005), as they relate to the broader social movement combatting grand challenges such as modern slavery.

2. Background

Social listening is a term primarily focused on social media monitoring, and used to describe the process of data-driven insight generation from public discussion on the web (see: Paris and Wan 2011; Balduini et al. 2013a; Balduini et al. 2013b; Schweidel and Moe 2014; Cole-Lewis et al. 2015; Anderson et al. 2017; Zhang, Wang, and Chen 2020). We aim to broaden this conceptualisation as ‘monitoring and caching of data from communication within societies’, which means not just capturing public social media discussion (and campaign responses), but also considering organisation-side social media communications themselves.

Social listening does not replace other potentially more robust, tractable and direct methods of statistical data collection (e.g. Dryhurst et al. 2020; Fenton et al. 2020), but it does have particular strengths in particular applications, and it does serve to augment understanding in others (i.e. within the broader sphere of events-based data for evidence-based policy formulation, see: Landman and Carvalho 2009; Panagiotopoulos, Bowen, and Brooker 2017; Keir et al. 2019 for extended discussions). This is especially so when early-warning and real-time insights are crucial, and data collection by other means cannot wait - as is the case with a variety of efforts to combat the various socio-economic issues during the COVID-19 crisis. We open our social listening approach with four main reinforcing points, focusing on SDG 8.7.

First, at present, a broad resource challenge exists among computational social scientists, data preservationists and archivists (see for an illustration in the context of natural disasters: de Bruijn et al. 2019) around rapidly and comprehensively capturing data related to all dimensions of the COVID-19 crisis, spanning public health and broader socio-economic issues (see: Delta 8.7. 2020; MIT Technology Review 2020). Importantly, this includes opportunities not just to capture data related to public communications and information seeking, but also to capture ‘push’ and ‘pull’ communications initiated by organisational actors (e.g. NGOs, government bodies at all levels, companies, high-profile personalities and influencers, and the news media involved in the anti-slavery movement).

This then lays the groundwork for translating new or updated organisational agendas into specific strategic communication tasks (e.g. information dissemination and/or ‘education’ strategy, behaviour change and/or call-to-action mechanism formulation – as well as specific campaign tactics related to any of these – see: Abu-Akel, Spitz, and West (2020) for a recent tactical example). For instance, communication strategy and tactics can be deliberately engineered to increase issue salience (Mellon 2013 and Mellon 2014) through re-sharing of prominent news articles (known as ‘news-jacking’) with the goal of conveying the scale and scope of an issue, highlighting the evolving nature of an issue in times of crisis such as during COVID-19), communicating direct calls-to-action, and linking specific issue agendas to the implications of the pandemic.

On the side of the communicating organisation, social listening enables the quick aggregation and summary of complex agenda-setting and prioritisation proxies – as well as the potential to gauge the ‘mirroring’ side of public issue salience (i.e. via strategic communications and communication tactics such as Hashtag usage (see: Fisher 2019; Jackson, Bailey, and Welles 2020).

Social listening by extension offers communicative proxies for agenda evolution and adaptation in the face of uncertainty and risk over time - allowing organisations to efficiently monitor wider developments in their strategic communications and public engagement landscape (see: Larson 2020). This includes seeking out proxies for external agenda influence from an often-complex web of stakeholders (e.g. other civil society actors, government, industry and activists), and building understanding of the uncertainties attached to agenda ‘cross-pollination’ (i.e. as other civil society actors, industry, the news media and activists (see: Jackson, Bailey, and Welles 2020) become involved in wider crisis events and social movements).

Second, taking a specific and contextualised example in the United Kingdom, The Modern Slavery Helpline (2020) has launched a ‘COVID-19 Crisis Appeal’. The organisation faces severe

funding risks because of the COVID-19 crisis, whilst simultaneously experiencing increased demand for its services – highlighting an important set of questions around resource prioritisation and strategic communication techniques for organisations operating within the SDG 8.7 space. It is not clear in this case what these priorities should be (e.g. the best approach for NGOs, charities and activists working to fight slavery right now; a focus on lobbying, solicitation of donations, building awareness, or some combination of these tactics). Specifically, social listening can be used to reveal insights for decision support in regard to improved public awareness and other strategic communications to avoid the erosion of modern slavery activism and risk mitigation efforts to date. The tactical challenge is keeping policymakers and the general public ‘tuned in’ to the cause against a backdrop of societal flux and the distraction that can come from a singular focus on COVID-19. Solving this puzzle starts with understanding what information has already been spread, how, and by whom – and importantly, how different messages resonate with different stakeholders.

Third, understanding the available communication strategies and tactics available for public awareness building around anti-slavery broadly, may be of particular timely ‘frontline’ importance (for additional background see: Birks and Gardner 2019). This point is also related to the above point on calls-to-action and behaviour change and reinforcement. For instance, as another specific and contextualised example, The Clewer Initiative (2020), a Church of England organisation that works on modern slavery, has recently highlighted the diminished capacity of society to identify and report signs of modern slavery taking place within communities around the world, given reduced public activity as a result of government-imposed lockdowns and other restrictions.³ In short, public participation in reporting is, and remains to be, critical in supporting frontline anti-slavery law enforcement initiatives (see: Bedfordshire Police 2020; *The Guardian* 2020c; *The Telegraph* 2020; West Mercia Police and Crime Commissioner 2020), with awareness a critical first step (End Slavery Now 2020).

It is clear that one dimension of this work is the need to accelerate and keep driving public awareness building around SDG 8.7 during the COVID-19 crisis in order to preserve past slavery-elimination and risk mitigation efforts, while another dimension is to do so in an adaptive way, addressing the unique set of circumstances and implications the crisis creates and the potential exacerbation of the modern slavery grand challenge via increased instances of existing forms of slavery as well as the emergence of new forms. Across both dimensions, organisations working on SDG 8.7 have significant strategic communication choices to make regarding the extent to which they align themselves with COVID-19-related subjects and causes, out of necessity and direct relevance, solidarity, and impact amplification opportunities.

Fourth, recent collation efforts as part of the Global Modern Slavery Directory (2020) shows that there are 2855 organisations around the world working to fight slavery, with 126 in the United Kingdom and 766 in the United States (for illustration) (see: Bryant and Landman 2020). This might suggest a potentially high degree of fragmentation in efforts, or a multitude of possibilities for greater collaborative inter-linkage. On the other hand, given that organisations working in the anti-slavery space are often extremely focused (e.g. in terms of specific forms of modern slavery or geography, or both), the spread of efforts and resources may actually be beneficial. But it is not clear who is positioned to assess this spread of efforts, nor is it clear whether fragmentation induces additional agenda risks.

A quick visual inspection of some of the major anti-slavery organisations around the world on Twitter reveals that many of organisations have in the tens-of-thousands of followers, while others have even more. It is not entirely clear who is currently positioned to assess who this audience is, their capacity to help the cause via amplification and participation, and whether or not there are differences in terms of frame reinforcement and salience and/or frame dilution (Benford and Snow 2000; Bob 2005), as different actors share and respond to certain communications over time.

3. Goals and motivation

The characterisation and communication of risk, despite deficits in knowledge on each, remains a core purpose of risk research (Aven and Boudier 2020), along with handling situational uncertainty with enhanced awareness (Bryce et al. 2020). Presently, the main argument for using data-driven approaches to risk assessment and mitigation in the context of communication is one based largely on data availability and prevalence (e.g. Velupillai et al. 2019; Kryvasheyeu et al. 2016). As discussed in work by Yoo and Choi (2020), contextualised within the MERS-CoV crisis of 2015, social media often serves as an ‘alternative’ media form, where ‘traditional media’ are deemed deficient in some way (NB: media responses are scrutinised in the context of the present COVID-19 crisis by Fu and Zhu (2020) and in the context of the H1N1 influenza crisis by Klemm, Das, and Hartmann (2016)).

Against this backdrop, and relevant specifically to risk communication research, we are motivated by the goal of assisting anti-slavery organisations with risk mitigation during times of crisis, along the lines of strategic communication and agenda maintenance and reinforcement – anchored in the need to reduce uncertainty via the creation of greater situational awareness, and achieved by extending social listening perspectives to encompass the communications of related actors engaged with the same topics and ‘battles’, and not just public conversation and discourse.

This commitment is made with the intent of encouraging further rapidly-deployed and resource-conscious research in the social listening domain, and to complement discussions around risk within the SDG 8.7 nexus, which has previously captured frontline landscape risk (Tickler et al. 2018) and commercial legal and reputation risk (Gold, Trautrim, and Trodd 2015).

Methodologically, this article is further motivated by the explosion of innovative social listening related research during the COVID-19 crisis so far, especially in the domain of social media (Alshaabi et al. 2020; Chen, Lerman, and Ferrara 2020; Cinelli et al. 2020; Dewhurst et al. 2020; Kuchler, Russel, and Stroebel 2020; La et al. 2020; van der Vegt and Kleinberg 2020; Wong and Jensen 2020), but also web search (e.g. Goldman 2020; Lamos et al. 2020), the news media (Garfin, Silver, and Holman 2020; Motta, Stecula, and Farhart 2020; Sun, Chen, and Viboud 2020), as well as combinations of channels (e.g. Fu and Zhu 2020; Liu et al. 2020), noting that similar trends in the literature exist pre-COVID-19 – capturing other disaster events (e.g. Klemm, Das, and Hartmann 2016; Regan et al. 2016; Pei et al. 2017; Bec and Becken 2019; Yoo and Choi 2020).

4. Approach

As introduced, we zoom in here on the communicative mechanisms of the anti-slavery social movement – examining high-level shifts in Hashtag usage and core semantics during COVID-19. We first present an overview of the dataset, followed by the presentation of preliminary evidence of key hashtag trends, followed by an analysis of preliminary evidence of semantic trends within Tweets - capturing the core vocabulary used by anti-slavery organisations.

4.1. Dataset overview

We focused our data collection on sixty prominent anti-slavery organisations (NGOs, charities, activist organisations, and government bodies) - with these ‘seed’ starting point accounts based on an existing proprietary database. Data collection was carried out by interfacing with the Twitter API using the R package ‘rtweet’ (Kearney 2019). This involved performing queries using the ‘get_timeline’ function in ‘rtweet’ – where the query is based on a list of seed @handles.

We collected Twitter activity between the 1st of January 2020 and the 30th of June 2020 to capture changes in activity related to the COVID-19 crisis and filtered these to include only

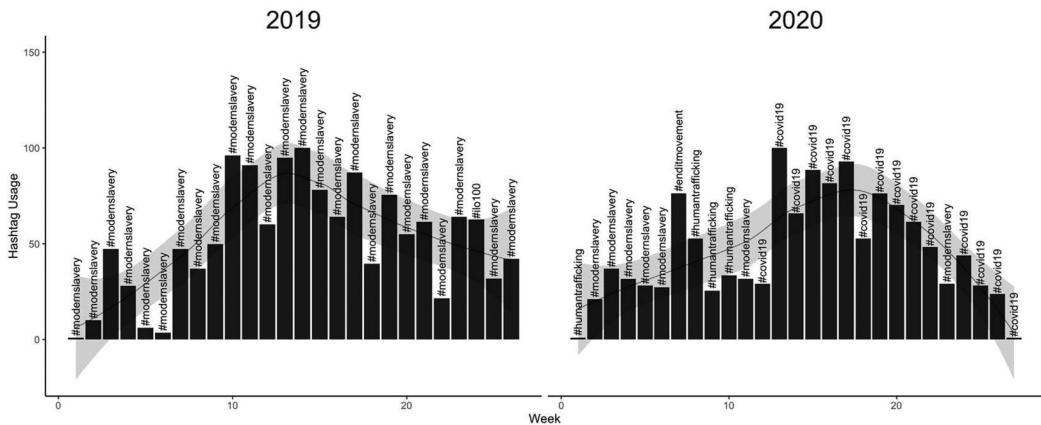


Figure 1. Hashtag usage in tweets.

Tweets containing Hashtags, which resulted in a final dataset of 7601 Tweets and 2251 Retweets. For comparison, we also collected Twitter activity from the same organisations for 2019. The 2019 dataset comprised 9235 Tweets and 2622 Retweets. Hashtags were all converted to lower-case for simplicity.

Our time unit ‘campaign weeks’ is defined by Monday to Sunday timelines (or by the earliest and latest possible days of the week within the 1st of January to 30th of June timeline), resulting in 26 weeks for 2019, and 27 weeks for 2020 (because of yearly date shifts and the fact that 2020 is a leap year). Visualisation was performed using the R package ‘ggplot2’ (Wickham 2011).

By Tweet activity, the top-three most active organisations during the focal 2020 timeframe (in descending order) were The UN-related International Organization for Migration (IOM) (@UNmigration), labour rights and human rights NGO Solidarity Center (@SolidarityCntr), and anti-slavery NGO Freedom United (@FreedomunitedHQ). By Retweet activity, the top-three most active organisations during the focal 2020 timeframe (in descending order) were @UNmigration, Coalition Against Trafficking in Women (@CATWIntl), and Solidarity Center (@SolidarityCntr). The maximum number of Retweets received by Tweets in the dataset was 641 (mean = 7.22 ± 19.48). The maximum number of external Retweets received was 56,431 (mean = 159.39 ± 1984.44).

4.2. Hashtags and engagement metrics

Our main analysis and interpretation of the dataset focuses on (1) the use of Hashtags, (2) retweets received on tweets, and (3) retweets received on retweeted content between the period under COVID-19 in 2020, and the comparable period in 2019. The different annual campaign weeks allow us to compare pre-COVID and during-COVID communication activity, while our analysis uses values normalised on a 1-to-100 scale for comparison. All figures are shown with Loess smoothing.

Figure 1 shows the dominance (in terms of usage – i.e. times used) of #modernslavery in Tweets made by focal organisations during the comparable period of 2019 in the left panel, while the right panel, shows an abrupt shift to #covid19 from Week 12 (the 16th of March to the 22nd of March) onwards in 2020. Figure 2 shows a similar pattern for Retweets made by focal organisations, with #covid19 dominating from Week 11 (the 9th of March to the 15th of March) onwards.

A similar shift is evident in Figure 3, which shows that #covid19 began to dominate (in terms of Retweets received when used in Tweets originating from our focal organisations) from Week

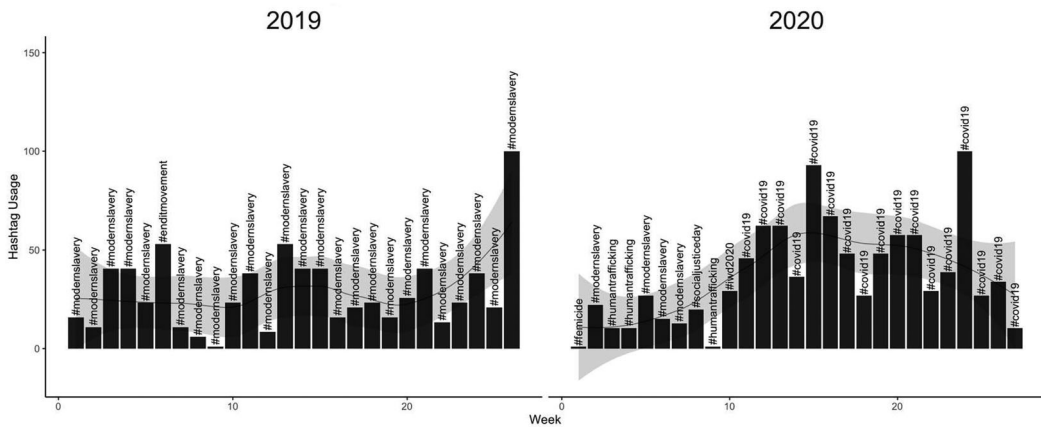


Figure 2. Hashtag usage in retweets.

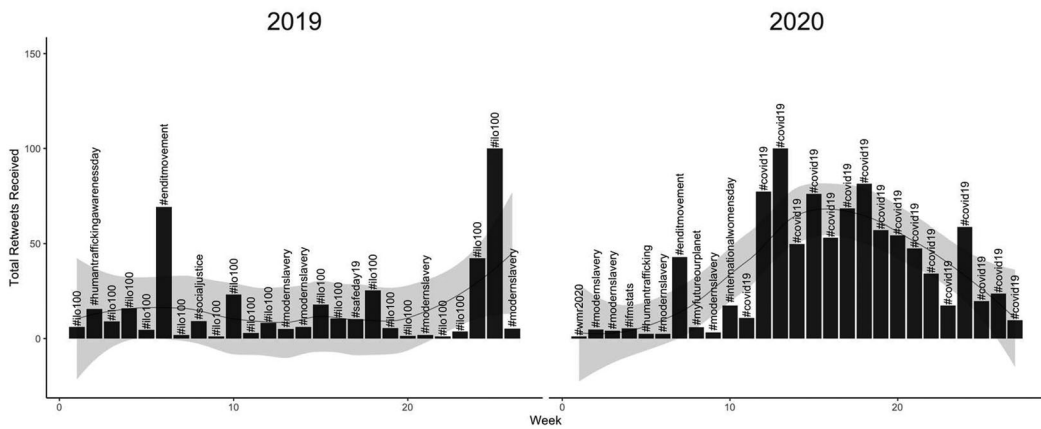


Figure 3. Hashtags by total retweets received on tweets.

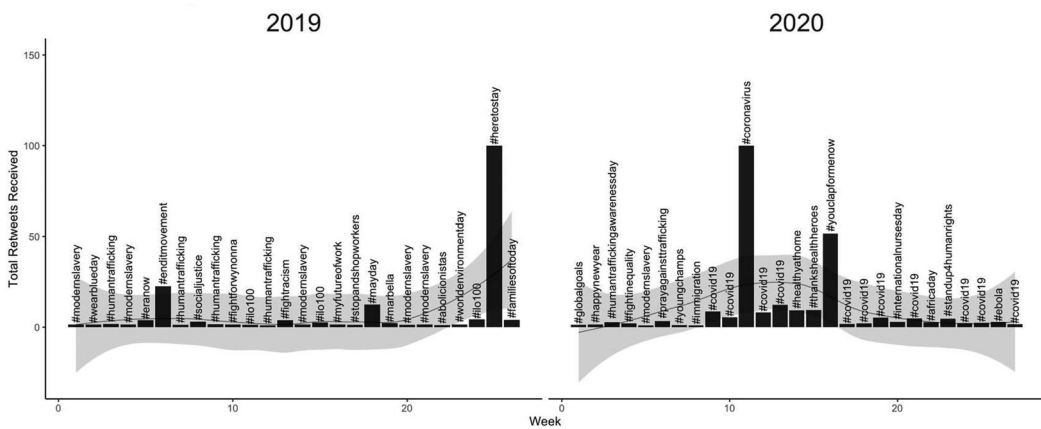


Figure 4. Hashtags by total retweets received on retweets.

11 onwards in 2020, compared with 2019. A similar story plays out in [Figure 4](#) for Retweeted content (and Retweets received externally on this content) with #coronavirus and #youclapformenow⁴ showing as outliers, and with #covid19 featuring prominently.

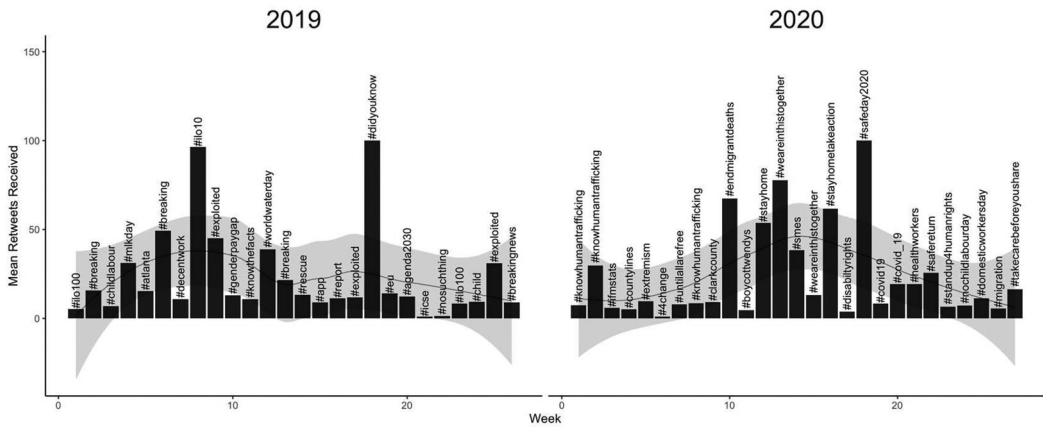


Figure 5. Hashtags by mean retweets received on tweets.

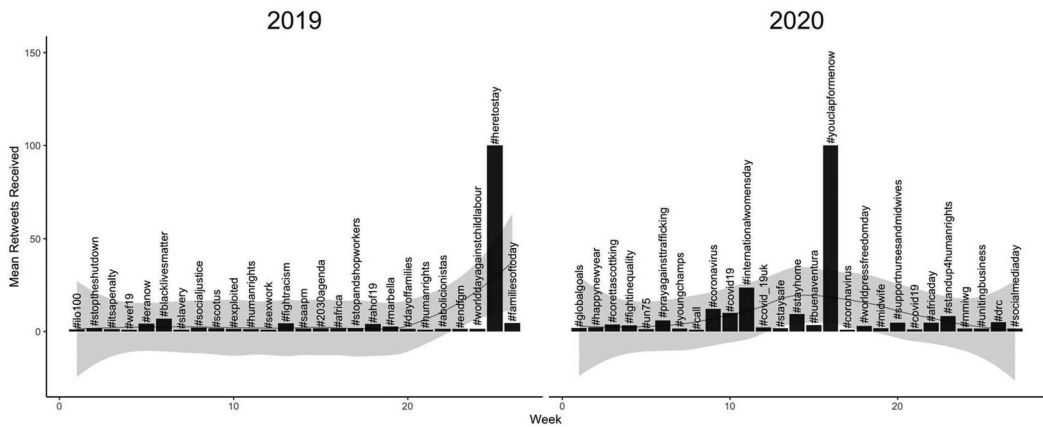


Figure 6. Hashtags by mean retweets received on retweets.

Adjusted for usage occurrences (i.e. mean Retweets received), Figure 5 shows a wider range of COVID-19 related Hashtags used in originator Tweets, such as #stayhome, #weareinthistgether, #stayhometakeaction and #healthworkers. Figure 6 tells a similar story, with #youclapformenow again featuring as an especially high-Retweet outlier.

Four major themes are observable by digging deeper into the 2020 Tweetscape represented in our dataset. First, earlier months tend to be characterised by 'Status Quo' – with Hashtag prevalence reflective of a yet-to-be-disrupted communications landscape (e.g. #enditmovement and #modernslavery). Second, another observable characterisation as time progresses, is that of 'Preservation' – where actors in the anti-slavery sphere launch or maintain messages not necessarily related to the COVID-19 crisis, but coinciding with it (e.g. #eugreendeal, #internationalwomensday, #youclapformenow, and #mlk, and #corettascottking - related to Martin Luther King's Birthday⁵). Third, another observable characterisation is that of 'Adaptation and Solidarity' where actors in the anti-slavery sphere adapt and link messages to align with Hashtags such as #covid19 and #coronavirus, as well as joining in with support for other popular causes during the COVID-19 crisis (e.g. #clapforcarers, #clapforkeyworkers, #stayhomesavelives, and #washyourhands,). Fourth, SDG 8.7 related themes flagged by other sources as being potentially amplified and exacerbated by the COVID-19 crisis appear (e.g. #domesticabuse and #alleysonfastfashion), representing communicative efforts to engage in 'Issue Handling/Amplification'.

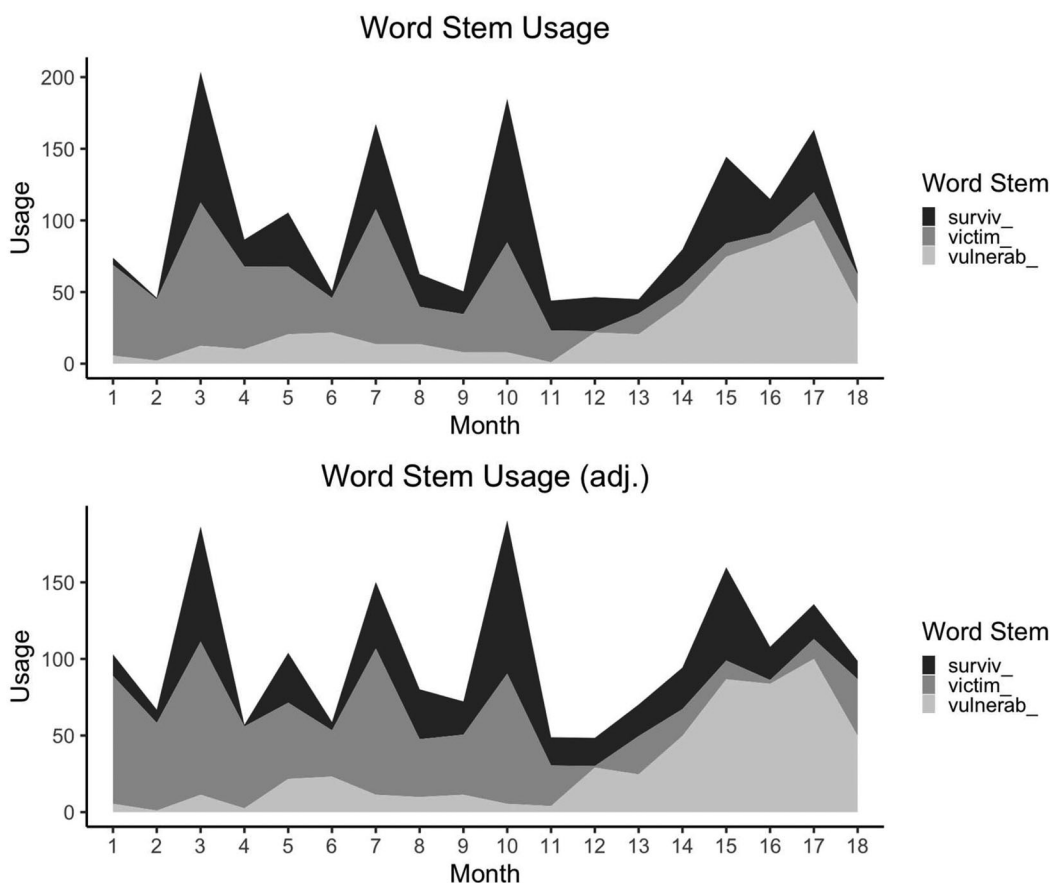


Figure 7. Word stem usage in tweets.

4.3. Core semantics

The nouns 'survivor' and 'victim' (e.g. survivors or victims of modern slavery) and the adjective 'vulnerable' (e.g. in describing 'vulnerable populations') are core parlance within the anti-slavery community (see: Tickler et al. 2018; Birks and Gardner. 2019; Murray 2019). From a semantic point of view, the distinction between these core terms is important, as (especially at scale) they capture temporal tense and function as important descriptors of how those susceptible to modern slavery are framed by the communicating organisation.

Specific to the current COVID-19 crisis, this section of our analysis deals with the search for high-level fluctuations in the usage of these terms as additional agenda-framing proxies. This includes the usage of terms (i.e. words within Tweets) in addition to Hashtags alone. We take an extended timeline encompassing January 2019 to June 2020 (Tweets and Retweets made over an 18 month timeline – of which there are 36,916 and 17,848 respectively) and explore the use of the word stems 'surviv_', 'victim_' and 'vulnerab_'.

Figure 7 shows results for Tweeted content, while Figure 8 shows results for Retweeted content. In both, the top panel shows the number of Tweets/Retweets where these stems feature (e.g. where a word like 'survivor' is used, irrespective of whether or not words like 'victim' and 'vulnerable' are also used), and the bottom panel shows these figures adjusted for exclusivity (e.g. where a word like 'survivor' is used but words like 'victim' and 'vulnerable' are not). Each timeline for each word stem is independently normalised on a 1-to-100 scale, such that smoothed usage minima and maxima are shown.

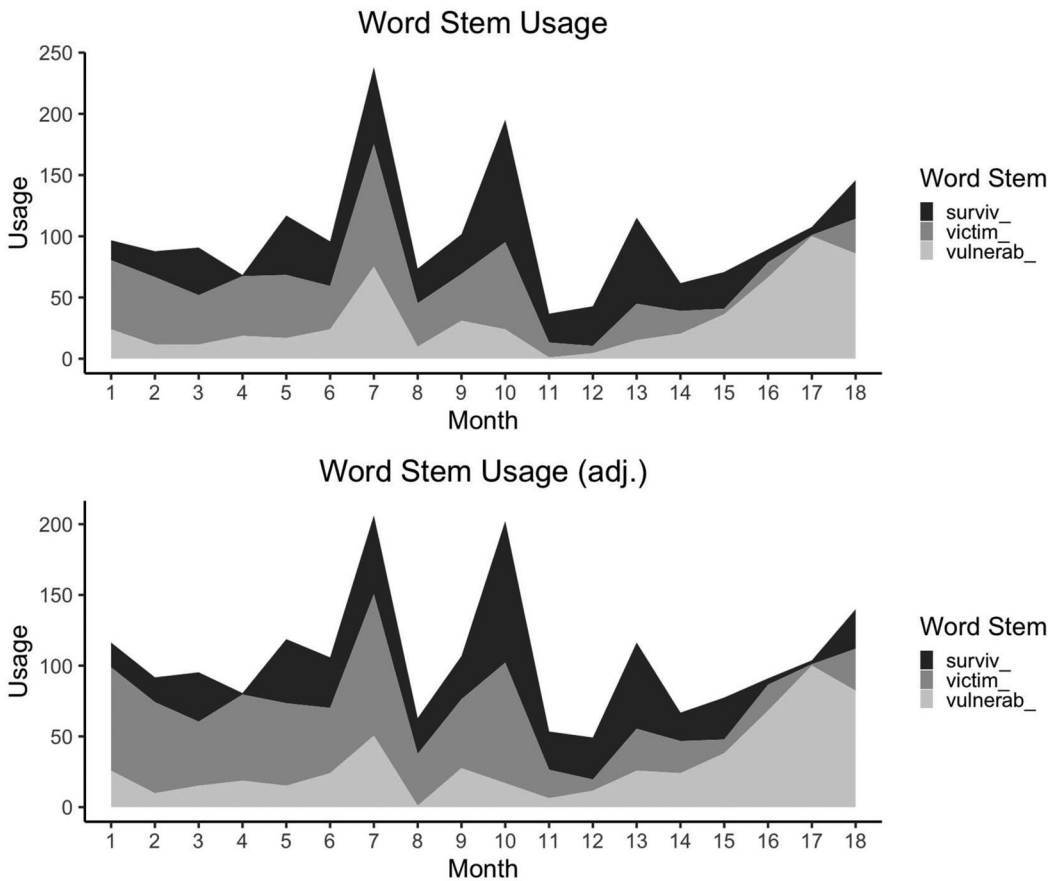


Figure 8. Word stem usage in retweets.

The main intention here is twofold: (1) to highlight the increased prominence of the stem 'vulnerab_' (i.e. representing terms such as 'vulnerable' and 'vulnerability') during the COVID-19 crisis. This provides illustrative evidence of an important dimension of crisis framing – that being a potential shift in temporal tense in the anti-slavery movement from present-tense and past-tense (e.g. victims and survivors) towards future-tense (i.e. an increased emphasis on vulnerable populations), and (2) to demonstrate the new contemporaneous linkages made by anti-slavery organisations to the COVID-19 situation with the goal of associating with timely discourse and to drive new audience membership.

Figures 9 and 10 show the same data visualised based on proportions of total Tweets and Retweets made within a month (i.e. usage of word stems within a given month relative to all Tweets made). From this point of view, whilst terms denoting survivors and victims remains relatively consistent over an 18 month timeline, the share of Tweets and Retweets mentioning terms denoting vulnerability increases steadily from around October 2019 – peaking in May 2020. For illustration, 2.13% of Tweets in October 2019 featured the word stem 'vulnerable_', whereas in May 2020 this was 6.49%. Similarly, only 2.09% of Retweets in October 2019 featured this stem, whereas in May 2020 this was 8.24%.

Taken together (4.2. and 4.3.), our data analysis and visualisation show that leading anti-slavery organisations engaged in significant shifts in their use of frames and signals that showed a decided embrace of COVID-19-induced disruption. These strategic shifts, in our view, sought to maintain traditional advocacy and awareness raising, while linking this specific focus on modern slavery to the broader social media communications about COVID-19. Rather than retain their

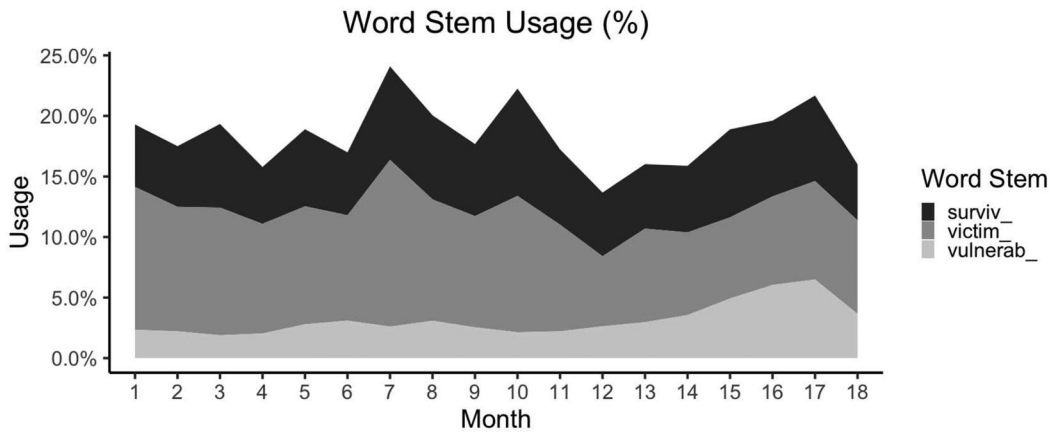


Figure 9. Word stem usage in tweets as a percentage of all tweets by month.

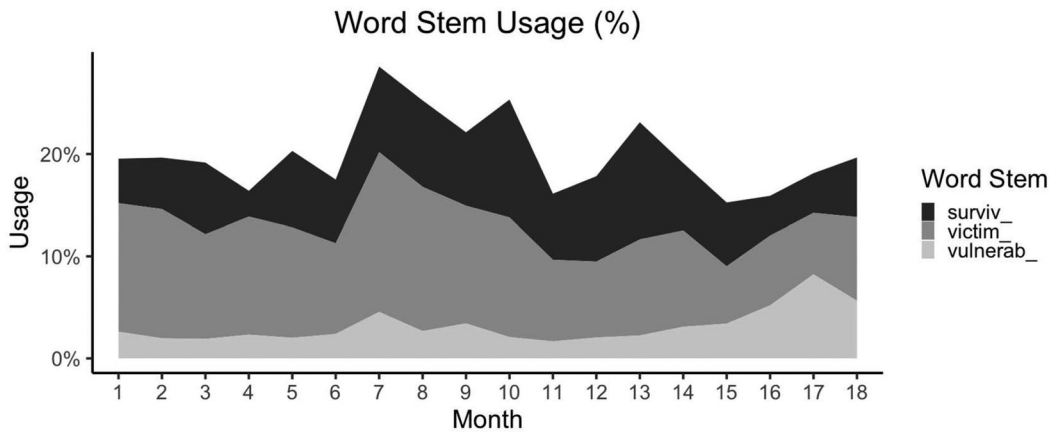


Figure 10. Word stem usage in retweets as a percentage of all retweets by month.

traditional messaging, these organisations made a strategic choice to connect their campaigns to the unfolding crisis around the pandemic (both in terms of Hashtag usage and semantic adjustment), while at the same time seeking to keep their particular cause as salient as possible.

5. Synopsis and lessons learned

Taking a neo-interpretivist perspective (i.e. utilising data science and data visualisation to support inductive computational social science research) – we arrive, based on our analysis, at the framework shown in Figure 11. This framework details the specific ways in which organisations engaged in the fight against modern slavery have shaped their digital communications during COVID-19. This applies to NGOs, charities and other civil society and government actors, as well as to for-profit organisations who commit to SDG 8.7 as part of their corporate social responsibility (CSR) agendas.

Specifically, we provide observational evidence to define a separation between *Thematic* and *Semantic* levers within digital communication strategy formulation. The former divides further into *Functional Purposes* and *Tactical Goals*, while the latter centres mostly on three types of *Tactical Approach* (i.e. the actual vocabulary used).

Functional Purpose characterises the way in which Hashtags are used by communicating actors – either for (1) high-level thematic positioning (e.g. #modernslavery and #humantrafficking), (2)

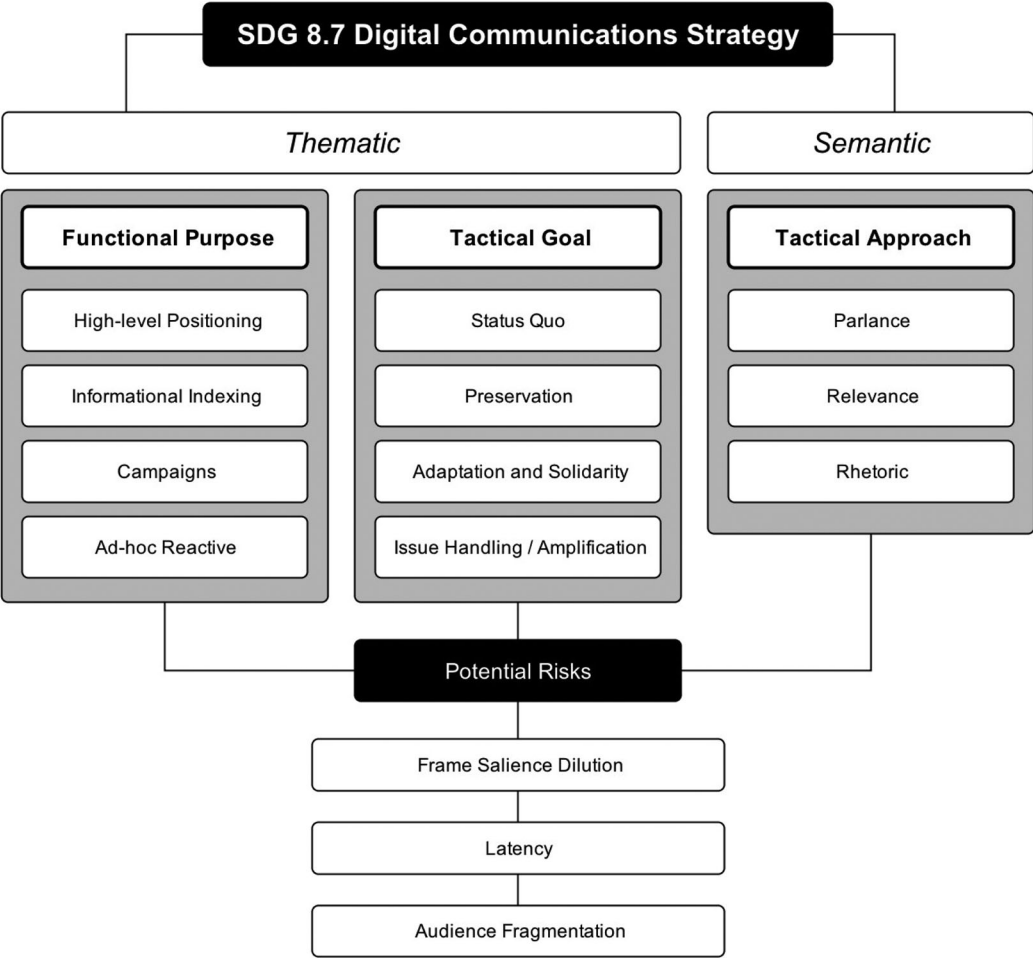


Figure 11. SDG 8.7 digital communications strategy framework.

informational indexing (i.e. using Hashtags to denote specific identifiable sub-themes such as forms of modern slavery – making them more accessible to target audiences), (3) campaigns, where Hashtags are deployed and shared among communicating actors to communicate a specific timely message linked to a specific agenda and its promotional campaign, and (4) Ad-hoc Reactive, where communicating actors create or utilise Hashtags related to a specific present issue or (for example) news story. Tactical Goals ('Status Quo', 'Preservation', 'Adaptation and Solidarity' and 'Issue Handling/Amplification') relate to our earlier discussion around the central purpose of specific Hashtag deployment (see: [Section 4.2](#)).

In terms of semantics, the selection of specific vocabulary to frame and communicate a message is largely a matter of *Tactical Approach*. Specifically, this refers to conventional SDG 8.7 (1) parlance (see: [Section 4.3](#)), (2) creating timely relevance in terms of vocabulary that best mirrors current discussion and reporting of issues, and (3) rhetoric – where vocabulary is chosen on the basis of emphasis.

Finally, our framework highlights potential risks (see [Section 1](#) – where we highlight a broader present-day digital strategic communications landscape as itself shaped by COVID-19-induced uncertainty and risk). For organisations engaged in the fight against modern slavery, this mostly involves risks around, (1) how easily *frame salience* can be maximised, and how efficiently and effectively *frame dilution* can be reduced, (2) latency, in terms of the dangers a campaign faces if

it is not aligned with the broader 'pulse' of present discussion (both in terms of thematic selection and semantics used to communicate this), and (3) audience fragmentation, where any given selection of thematic and semantic framing comes with a risk in terms of audience attention, perception and engagement.

6. Summary and implications

In summary, this article presents a social listening framework as a toolkit for revealing and understanding insights into public awareness and engagement building during disasters (Newport and Jawahar 2003; Eyre, De Luca, and Simini 2020). The analysis focused on SDG 8.7, and the strategic communications of organisations operating within it, as well as seeking to contribute to future research focused on public awareness of the anti-slavery nexus more broadly (discussed in: Birks and Gardner 2019 and Such, Jaipaul, and Salway 2020).

A major issue we identify within this context, and within social listening in general, as a pathway for future research, is the extent to which *selective exposure* takes place among audience actors – the process by which cognitive biases shape what people 'choose to see' in terms of informational exposure (see: An, Quercia, and Crowcroft 2013; Gaspar et al. 2016; Mummolo 2016; Peterson, Goel, and Iyengar 2019). This has implications for understanding which information sources the audience seeks out, either in an ad-hoc manner (e.g. a social media platform search with certain, potentially 'biased' keywords (e.g. Hashtags)), or an ideologically-motivated gravitation towards viewing certain sources and causes, or attention paid to, or engagement with a particular individual social media post or online news story based on the ideological roots of the receiver) - or engagement in a more 'permanent' manner (e.g. 'following' a social media account or news outlet based on similar gravitation effects).

On the side of the communicating organisation, another major issue we identify as a pathway for future research relates to our aforementioned point on 'frame' reinforcement and salience and 'frame' dilution. Framing issues (e.g. in the case of anti-slavery organisations) implies shaping messages to appeal to, and activate the widest possible audience. Natural disasters such as the COVID-19 crisis disrupt such efforts – via both reshaping the agendas of even the most focused and well-prepared civil society actors, as well as reshaping public attention. Decisions then arise about the extent to which focused civil society actors (whether dedicated to SDG 8.7 or any other grand challenges facing humanity) should seek to maintain their existing messages and agendas, or adapt in some ad-hoc manner (both in terms of Hashtag linkage and semantic framing based on vocabulary selection). The decision comes down to the extent to which a crisis such as COVID-19 has a direct impact on a given focal cause, versus the extent to which there is a strategic advantage in seeking out and highlighting new impacts to shape new messages accordingly. We believe this general notion of '*framing for survival*' offers a particularly fruitful future research pathway within risk research.

In short, uncertainty is itself a driving factor behind selective exposure and selective information processing in general (Karlsson, Loewenstein, and Seppi 2009; Fischer 2011; Frampton 2019; Wedderhoff, Chasiotis, and Rosman 2019). What is especially compelling though, is that selective exposure itself can be considered a risk factor within the broader sphere of risk communication and communication under conditions of uncertainty. Such convoluting factors such as 'bubble' effects have been widely explored in the context of mass-communication in politics (e.g. An et al. 2014; Bakshy, Messing, and Adamic 2015). A mirroring empirical issue here is one of selection bias and measurement errors induced by faulty 'seed' selection processes in tracking data streams for social listening (i.e. the point from which the researcher begins their analysis of a given communication landscape). Bias is also introduced through the ways in which organisations choose to create associations between issue areas signified when choosing Hashtags and campaign language.

Finally, anti-slavery organisations are mitigating the risk of getting lost ‘in the shuffle’, by intentionally ‘news-jacking’ COVID-19 for their own strategic sustainability, and highlighting the new vulnerabilities of slaves during the period of the pandemic. This implies the counterfactual question: what would happen if these organisations did not link to COVID-19? Answering this question in the future involves considering the delicate balance between maintenance of ‘normal’ frame cohesion, as well as considering the ‘new normal’ induced by the COVID-19 crisis (see: Australian Financial Review 2020).

We conclude by proposing that tailored social listening frameworks should be applied even further - especially in times of global disaster, where readily accessible and scaled data collection infrastructure can support so-called ‘nowcasting,’ as well as more robust social-forecasting going forward (see: Sutton 2009; de Bruijn et al. 2019; Aiello, Renson, and Zivich 2020; Wojcik et al. 2020). Eyre, De Luca, and Simini (2020) work on using social media data to understand small business recovery after natural disasters is an important applied example here for instance.

Web search data (i.e. most commonly from search engines – but also a term encompassing search on other web platforms), if taken within a social listening framework, also offers a window into ‘unknown’ or ‘sought’ information – necessary inputs into decisions by focal searchers, and by extension, useful windows into potential needs and deficits in society (Fondeur and Karamé 2013; Mellon 2013; Mellon 2014; Preis, Moat, and Stanley 2013; Kitchens, Harle, and Li 2014; Naccarato et al. 2018; Lucas, Elliot, and Landman 2020). Here - specific to the SDG 8.7 context: an especially important topic for anti-slavery organisations to understand during the COVID-19 crisis is the use of Google Search as an information portal for victims. Consider examples such as enslaved people and survivors of slavery accessing health care (see: Thomson Reuters Foundation 2020b), or domestic violence victims accessing support services (*The Guardian*, 2020e; *The Telegraph* 2020).

We hope this article stimulates further multi-disciplinary perspectives on anti-slavery and human rights research (Landman and Carvalho 2009; Landman 2018; Landman 2020), as well as broader extant work on pathways towards SDG operationalisation and performance measurement (Hák, Janoušková, and Moldan 2016; Sachs et al. 2019; United Nations SDSN 2020). More broadly, we envisage social listening frameworks as being useful tools to build further understanding around other risk-related social phenomena during the COVID-19 crisis, especially those directly linked to grand challenges facing humanity via UN SDGs, and others with the potential to reshape wider macro-political landscapes and economic environments (*The Guardian*, 2020g; Landman and Splendore 2020).

The main limitation of this study is that we present only a simple comparison of temporal snapshots. We hope though that future studies take advantage of publically accessible data sources in pursuit of more comprehensive pre-COVID-19/post-COVID-19 comparisons of digital campaigns, strategic communications, and public information access behaviour. Such approaches will have applications in a variety of contexts, including ours – the mitigation of communication risk of organisations engaged in the context of SDG 8.7. We hope though that this article provides a picture of how future related research can leverage the strengths of data science approaches in organising data into human interpretable forms at scale. In short, humans lack the ability to traverse wide swathes of the Internet where contextually useful information is held, and to work with sufficient scale and aggregation capacity in analysis (following a neo-interpretivist perspective).

In conclusion, we highlight here the changing and highly inter-related semantic morphology of the anti-slavery movement as defined by the current COVID-19 crisis. Our analysis shows that anti-slavery organisations radically altered their use of communications and intentionally linked their messaging to the unfolding ramifications of COVID-19 on a particularly vulnerable population of people.

Notes

1. UN Sustainable Development Goal 8.7 asks states '[T]ake immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms.' This commitment to ending modern slavery at the UN level joins a much longer effort to combat slavery from a variety of state and non-state actors (See: Landman 2018; 2020).
2. This refers to the capture of existing summarised information on social media such as Hashtags which are often used to illustrate the core strategic communication or campaign purpose of a given Tweet, and thus serve as useful proxies of operational agendas and priorities when considered in aggregate and at scale.
3. Government responses to the pandemic tracked, for example, by the Blavatnik School of Government at Oxford University, include lockdowns restricting freedom of movement, a variety of social distancing measures to reduce community transmission, and severe restrictions on economic freedom, business operations, and other organisational activity. The school's 'Stringency Index' (OxCGRT) collects publicly available information on 17 indicators of government responses, including containment and closure policies, economic policies, and health system policies. See: <https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker>.
4. Related to a viral video campaign demonstrating the "crucial role of BAME people in coronavirus crisis". See: The Guardian (2020f). The video can be viewed at The Guardian's YouTube page.
5. Discussed in AJC (2020) – *MLK would be 91 today. Here's how Twitter users honored him*.

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