Addressing Exploitation in Supply Chains: Is technology a game changer for worker voice?

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Abstract

Multinational businesses are facing mounting pressure to identify and address risks of exploitation, trafficking and modern slavery in their supply chains. Digital worker reporting tools present unprecedented opportunities for lead firms to reach out directly to hard-to-reach workers for feedback on their working conditions via their mobile phone. These new technologies promise an efficient and cost-effective way to cut through the complexity of global production, gathering unmediated data on working conditions directly from workers at scale. As the market for these tools grows, this paper contextualises their emergence within the broader political economy of supply chain governance. It presents three sets of concerns about their use that must be addressed by businesses, investors, donors and governments that develop or utilise these tools. First, the quality of data gathered by these tools may be inadequate to reliably inform decision-making. Second, global brands may gather large quantities of worker data to identify legal, reputational and financial risks without addressing structural causes of exploitation or delivering outcomes for workers. Third, large scale collection of data from workers creates new risks for workers' wellbeing and safety.

Introduction

Businesses across the globe profit from exploitative working and recruitment conditions within their supply chains, often deep within a web of subcontracted suppliers and outsourced labour in distant countries. Downward cost pressures and short production lead times have amplified demands for cheap labour. Migrant workers are especially vulnerable to abuse, including forced labour and trafficking, where they have accumulated debts to recruiters that compel them to work under whatever conditions are imposed by the employer. In many countries where production occurs, worker organising and advocacy are suppressed, and labour law protection and access to justice are limited, leaving workers with little power to change their circumstances.

Multinational businesses are facing mounting pressure to address these conditions in response to increased consumer, investor and shareholder scrutiny, alongside new regulatory obligations requiring businesses to identify forced labour, human trafficking, and modern slavery within their supply chains.[1] Historically, these businesses have operated at arm's length from their suppliers, certainly those beyond the first tier. They increasingly confront the challenging task of assessing, reporting on, and addressing labour and recruitment conditions among all subcontracted entities. Most of these supply chains are transnational, complex, diffuse and opaque, with many layers that were not previously visible to lead firms, let alone consumers and investors.

The limited success of social auditing, inspections and other traditional methods of gathering information on working conditions among suppliers has demonstrated that data-gathering is practically difficult, costly and corruptible.[2] Factories are dispersed, and resources for this exercise are limited, especially in the context of fierce global price pressures for many goods and services. Because of complex sub-contracting arrangements, most workers in factories, farms and fishing vessels are below the level of first-tier suppliers. Worksites at the third, fourth or fifth tier in a supply chain often host the poorest working conditions, but frequently remain out of reach of traditional inspections or audits commissioned by buyers.[3] Accessing vulnerable workers in sufficient numbers, targeting a representative group of workers, asking the right questions, eliciting truthful information on

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[1] See e.g., *Modern Slavery Act 2015* (UK); *California Transparency in Supply Chains Act*, CAL. Crv. Code § 1714.43 (California, USA); Law No. 2017-399 on the Corporate Duty of Vigilance for Parent and Instructing Companies (France); *Modern Slavery Act 2018* (Australia).

[2] G LeBaron, J Lister and P Dauvergne, 'Governing Global Supply Chain Sustainability through the Ethical Audit Regime', *Globalizations*, vol. 14, no. 6, 2017, pp. 958-975, p. 958, https://doi.org/10.1080/14747731.2017.1304008.

[3] *Ibid.*

sensitive issues, and gathering data regularly across worksites in a timely manner, each present challenges.[4]

In the face of these practical challenges to data collection through social auditing, businesses are looking to technology for solutions. Technology-based initiatives promise a way to cut through the complexity of global production by reaching out directly to individual hard-to-reach workers in apparel, agriculture, seafood and other supply chains, and enabling them to provide feedback on their working conditions via their mobile phone. The lure of technology for lead firms is that it could present a quicker, easier and more cost-effective method of gathering accurate, unmediated data directly from workers at scale. Unlike traditional social audits, these tools offer the potential to rapidly and continuously collect and transmit information that can influence in real-time business decisions regarding suppliers and subcontractors.[5] Digital tools also offer new capabilities that could overcome other limitations of social audits: larger datasets to produce a more rigorous and sophisticated understanding of problems; empowerment of workers through greater and unmediated engagement; more nuanced capacity to evaluate or measure outcomes to improve conditions for workers; and enhanced worker security through end-to-end digitisation of the process.

However, the promise of digital worker reporting tools can only be fully realised when they are deployed by businesses that have a genuine interest and leverage to address worker exploitation. Corporate responsibility initiatives in supply chains are often criticised for failing to meaningfully improve working conditions because they are primarily geared towards risk management rather than human rights protection. In this context, social audits may not seek to truly understand problems with working conditions or their drivers, or to direct resources to improve them. When deployed within the same political economy as superficial social audits, the same criticisms can be levelled against digital worker reporting tools. Indeed, like traditional business-led social audits, digital tools are often marketed as a new means of managing global brands' legal, reputational and financial risks and meeting reporting obligations. In doing so, they promise to provide businesses with visibility of their supply chain, thereby 'de-risk[ing] operations', offering 'effective diagnostic tools' and 'early warning systems' and helping to avoid 'damaging PR scandals'.[6]

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[4]   G LeBaron, J Lister and P Dauvergne, 'The New Gatekeeper: Ethical audits as a mechanism of global value chain governance', in A C Cutler and T Dietz (eds.), *The Politics of Private Transnational Governance by Contract*, Routledge, Oxon/New York, 2017, p. 97.

[5]   Interview, L Nicholls, Marks & Spencer PLC, July 2018.

[6]   Websites of three companies that provide worker reporting tools to business.

This paper seeks to connect the growing interest in the potential of new *technology-*powered worker reporting tools with longer-standing and critical engagements about the capacity and limits of due diligence and social auditing processes to detect and remediate the structural causes of worker exploitation and labour abuses in supply chains. With the exception of a very recently published expert study of worker voice technologies to identify and address situations of forced labour and trafficking,[7] much of the current literature is in the form of short, op-ed style pieces or briefings,[8] guides directed towards practitioners,[9] or industry principles.[10] This paper seeks to address the paucity of empirical, critical, worker-centred analyses of these new tools. In doing so, it draws on and extends earlier academic investigations into the ambivalent relationship between technology and human rights,[11] as well as the interconnections between trafficking and technology.[12]

As the market for digital worker reporting tools grows, this paper presents three sets of concerns about the use of these tools that undermine fulfilment of their potential: the quality of data, quantity of data, and data protection. Some of these concerns echo apprehensions about social auditing more broadly. Others reflect new dangers that are particular to the digital context or specific technologies.

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[7]   A foundational contribution to efforts towards a worker-centred and critical scholarship has recently been made by the Issara Institute and a group of US-based academics. See L Rende Taylor and E Shih, 'Worker Feedback Technologies and Combatting Modern Slavery in Global Supply Chains: Examining the effectiveness of remediation-oriented and due-diligence-oriented technologies in identifying and addressing forced labour and human trafficking', *Journal of British Academy*, vol. 7, no. s1, 2019, pp. 131-165, https://doi.org/10.5871/jba/007s1.131.

[8]   For example, an early consolidation of recent trends was made in a brief report summarising the proceedings of an expert conference hosted by Wilton Park on the role of digital technology in tackling modern slavery: Wilton Park, 'Report: The Role of Digital Technology in Tackling Modern Slavery: Monday 12 - Wednesday 14 June 2017', WP1546, July 2017, https://www.wiltonpark.org.uk/wp-content/uploads/WP1546-Report.pdf.

[9]   See L Rende Taylor and M Latonero, *Updated Guide to Ethics and Human Rights in Anti-Human Trafficking: Ethical standards and approaches for working with migrant workers and trafficked persons in the digital age,* Issara Institute, 2018, http://www.antislaverycommissioner.co.uk/media/1207/guide-to-ethics-and-human-rights-in-anti-human-trafficking.pdf.

[10] See, for example, WEST Principles, https://westprinciples.org/about/.

[11] See, for example, M Latonero and Z Gold, 'Data, Human Rights & Human Security', Data & Society, 22 June 2015, https://datasociety.net/pubs/dhr/Data-HumanRights-primer2015.pdf.

[12] See M Latonero, B Wex and M Dank (with S Poucki), *Technology and Labor Trafficking in a Network Society: General overview, emerging innovations, and Philippines case study*, University of Southern California, February 2015, https://communication-leadership.usc.edu/files/2015/10/USC_Tech-and-Labor-Trafficking_Feb2015.pdf.

Each area of concern is generally invisible and difficult for outsiders to evaluate.

Methods

This paper is informed by literature review, a series of discussions and interviews with experts, and discussions within a multi-stakeholder convening. The authors initially conducted an extensive review of materials on the development of technology-based initiatives for migrant workers. This included peer-reviewed academic literature, legal materials and grey literature such as reports, policy and briefing notes, and other materials published by businesses and other stakeholders, media articles and blog posts. The authors simultaneously conducted a mapping exercise to identify emerging tools and technology-based initiatives and, where possible, downloaded the app, reviewed features and identified the developer or affiliated organisation.[13]

This literature review helped to elucidate nascent themes and gaps as well as to identify key stakeholders to approach for further information. This subsequently informed the authors' approach to a series of preliminary conversations (conducted via Skype/Zoom) followed by detailed interviews and email exchanges with a range of individuals with expertise and experience in the design, use, funding, regulation or research of technology for migrant worker engagement.[14] In total, background discussions, interviews and/or email exchanges were conducted with 55 individuals. These included representatives from digital developers and other businesses supplying digital tools (n=16), multinational businesses that have used digital tools for worker engagement (n=4), migrant rights organisations and legal advocates (n=5), trade unions and other worker organisations (n=9), a multi-stakeholder initiative with business (n=1), government agencies and regulators

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[13] This paper focuses only on a subset of migrant worker engagement tools, namely worker reporting tools to address trafficking and exploitation in supply chains, excluding, for example, mobile money, blockchain, e-recruitment and anti-corruption and fraud prevention initiatives. For analysis of other types of worker engagement tools, and broader issues relating to other types of tools, please see B Farbenblum, L Berg and A Kintominas, *Transformative Technology for Migrant Workers: Opportunities, challenges, and risks*, Open Society Foundations, New York, 2018.

[14] Research was conducted in accordance with HC180181 approved by the Human Research Ethics Office of the University of New South Wales, Sydney, and funded by the Open Society Foundations.

(n=3), researchers/consultants (n=8), and donors/investors (n=9).[15] These were identified through the literature review and mapping exercise, as set out above, followed by snowball sampling on recommendations for other experts until data saturation was achieved. Interviews were semi-structured and participants were asked to explain the functions and mechanisms of the tools they had developed, funded or implemented (if relevant), and to reflect on their challenges in implementing, funding and managing risks including worker safety, data privacy, and share their general reflections on the state of the emerging field. Interviews were recorded (with consent) to enable the authors to engage in multiple rounds of thematic analysis.

In addition, UNSW Sydney, University of Technology Sydney and the Open Society Foundations co-hosted a two-day global convening of experts (n=73) in February 2018 to discuss the use of technology for migrant worker engagement, comprising plenary panels, small group discussions and anonymous reflections. The discussions assisted the authors to test their ideas and refine their thinking.

The authors sought to incorporate the experiences of migrant workers via interviews with migrant rights organisations, legal service providers, trade unions and other worker organisations. However, unfortunately, the time and funds available did not permit the authors to undertake fieldwork with workers directly or to conduct user testing.

The Landscape and Functions of Worker Reporting Tools

This paper focuses on tools that solicit data directly from workers through their mobile devices in a supply chain context.[16] Typically, they seek workers' responses to a limited number of closed questions about working conditions, using IVR (interactive voice response), USSD (unstructured supplementary data services)[17] or SMS. These have the benefit of not requiring workers to have a smartphone or pay for use, and can accommodate lower levels of literacy.

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[15] There is some overlap among these categories, for example, some donors have also developed their own app or commissioned or conducted research. The number of interviewees in some instances exceeds the number of organisations interviewed per category, for example, where group interviews were conducted or multiple people from one organisation were interviewed separately.

[16] Other emerging technologies in supply chains include data collation and visualisation tools that integrate multiple sources of information and big data to improve supply chain transparency and blockchain technology that traces and verifies the provenance of goods.

[17] A connection made through a mobile network operator's computers that tends to be more responsive than SMS.

The market for worker reporting tools generally comprises of for-profit businesses and social enterprises that sell their platform services or data to lead firms in supply chains. These companies do not typically have a migrant worker or anti-trafficking background but have expertise in technology project management and development. Some platforms, such as &Wider, Laborlink and Ulula, survey workers at the level of their worksite on behalf of a client. Others, such as LaborVoices, first engage with workers directly in a community and then collect and market aggregate data to clients to provide insights on market conditions across businesses or worksites.

Although the market is dominated by for-profit entities, some tools are operated by unions or non-profits (such as the IM@Sea pilot by the International Labor Rights Forum or Issara Institute's Inclusive Labour Monitoring System). Others operate as a public and private sector partnerships (e.g. Apprise Audit) and hybrid models (e.g. Worker Connect, funded by Humanity United and designed by private developer Caravan Studios for use by a construction management company).

The form of data collection may depend on context-specific factors such as connectivity, literacy, smartphone penetration, and factory and worker preference.[18] Laborlink has generally preferred IVR although it is beginning to offer smartphone options, especially in China where smartphone penetration is higher. The Issara Institute has noted that whilst 90 per cent of contact with migrant workers was through their toll-free helpline in 2015-16, by 2017-18 the portion of smartphone-enabled contact increased to 50 per cent.[19] Some platforms are app-based, such as Apprise Audit which presents an audio questionnaire to workers in their own language, and then prompts them to tap yes or no.[20] As smartphone ownership and digital literacy continue to rise, more complex technologies (raising further privacy and security concerns) can be expected.[21]

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[18]   Interview, H Canon, ELEVATE, July 2018.

[19]   L Rende Taylor and O Ei Ei Chaw, 'Driving Behaviour Change of Recruiters, Suppliers, and Job Seekers Toward Ethical Recruitment: Critical roles of global buyers & grassroots actors', Series Paper 2, Issara Institute, September 2018, p. 7, https://docs.wixstatic.com/ugd/5bf36e_4620b33fdea7485382683dd927a97378.pdf.

[20]   WEST Principles, 'Realizing the Benefits of Worker Reporting Digital Tools', White Paper, March 2019, p. 15, https://westprinciples.org/wp-content/uploads/2019/03/west_principles_white_paper-realizing_the_benefits_of_worker_reporting_digital_tools.pdf. See also 'Apprise: Tools for screening vulnerable populations', *UNU Computing and Society*, 20 April 2018, retrieved 14 June 2019, https://cs.unu.edu/research/migrant-tech-apprise/.

[21]   Interview, H Canon, ELEVATE, July 2018.

In most tools, workers' feedback is anonymous, although demographic information such as language, nationality, gender, age or length of employment is sometimes collected. A small number of tools (e.g. Amader Kotha Helpline) allow the worker to choose whether they would like to be identified to management.[22]

In order to promote uptake, worker participation is often incentivised by a promise of phone credit or other monetary rewards.[23] The roll-out of tools is also sometimes accompanied by physical outreach, including building local capacity of partners such as unions,[24] engaging closely with worker welfare staff at the worksite, and conducting face-to-face workshops in workers' languages.[25] Some companies conduct follow-up surveys with workers to measure improvements.[26]

A range of tools integrate worker data collection with other functions. For example, some tools seek to establish ongoing two-way communication channels with workers to provide information on safety or project updates,[27] push out educational content[28] or enable workers to register grievances.[29] An emerging model, used by companies such as Ganaz, MicroBenefits and Workplace Options' WOVO tool, integrates worker engagement into platforms used for human resource purposes such as employee training or the provision of employment records. Others, such as the Responsible Business Alliance's initiative, are framed as a health and wellbeing intervention.[30] Some non-profit initiatives seek to integrate data collection with other services such as access to justice[31] or facilitating direct recruitment of workers by employers.[32]

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[22] WEST Principles, p. 12.

[23] E.g. LaborVoices and Laborlink.

[24] WEST Principles, p. 17.

[25] Interview, S Lee, Caravan Studios, July 2018.

[26] Interview, H Canon, ELEVATE, July 2018.

[27] E.g. Workplace Options.

[28] E.g. 'QuizRR', retrieved 14 June 2019, https://www.quizrr.se.

[29] E.g. Ulula.

[30] 'Workplace Well-Being', Responsible Business Alliance, retrieved 14 June 2019, http://www.responsiblebusiness.org/issues-management/workplace-well-being.

[31] The Issara Institute also allows migrants to seek immediate assistance from their team.

[32] Ganaz, a workforce management platform for agricultural workers in Mexico and the US, allows employers to contact experienced workers while they are in their home villages to reduce dependence on recruiters. Just Good Work, an app to provide multilingual information to Kenyan jobseekers seeking work in Qatar, aims to eventually help ethical employers contact jobseekers directly: WEST Principles, pp. 18–19.

Digital Tools in the Context of Long-Standing Critiques of Social Auditing

Since the 1980s, retailers and brand companies in the global north have increasingly sourced goods from the global south, giving rise to decentralised transnational supply chains dependent on cheap labour in developing countries. During that time, to manage the business risks of this outsourcing, many companies implemented in-house compliance auditing regimes.[33] More recently, social (or 'ethical' or 'multi-stakeholder') auditing has emerged as multinational businesses seek to curb exploitation in their supply chains in response to mounting consumer, investor and shareholder pressure. This generally involves an independent firm verifying a supplier's compliance with the brand or retailer's human rights standards or codes of conduct. This may take the form of a physical inspection of factory, farm, mine or vessel, documentary review of records, and/or interviews with management and occasionally also with workers, generally over a few days in yearly or bi-annual intervals.[34] Social auditing has since expanded into an immense and lucrative industry worth an estimated USD 50 billion.[35]

A large body of literature has emerged which critiques social auditing for being shallow or directed at compliance box-ticking and risk management with potential for co-option and corruption. Due to their tendency to define problems in 'technical and managerial terms', social audits have likewise been critiqued for being unable to identify underlying and structural drivers behind exploitative working conditions, as opposed to their mere symptoms.[36]

Social auditing likewise emerged as part of growingly complex regulatory landscape including the emergence of national-level modern slavery legislation (implementing due diligence and mandatory reporting regimes),[37] as well as international

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[33] LeBaron, Lister and Dauvergne, 'Governing Global Supply Chain Sustainability', p. 959.

[34] J Ford and J Nolan, 'Regulating Transparency on Human Rights and Modern Slavery in Corporate Supply Chains: The discrepancy between human rights due diligence and the social audit', *Australian Journal of Human Rights,* vol. 26, no. 1, 2020 (forthcoming).

[35] LeBaron, Lister and Dauvergne, 'Governing Global Supply Chain Sustainability', p. 965.

[36] *Ibid.*, p. 962.

[37] See above, n 1.

commitments,[38] voluntary industry-led guidelines,[39] and codes of conduct.[40] However, many of the codes of conduct and modern slavery regulations that animate due diligence initiatives lack clear benchmarks for evaluating and remediating problematic working conditions.[41] This risks reinforcing tendencies towards risk management, rather than the systemic improvement of working conditions which would require a far greater investment of resources and structural reforms. Whilst social auditing regimes 'generally fail to detect or correct labor and environment problems in global supply chains', their ubiquity both reflects and reinforces broader shifts in the political economy of neoliberal economic governance.[42]

In general, digital worker reporting tools have emerged within the same political economy as other corporate responsibility-oriented forms of social auditing. As a result, some of these more limited business objectives appear to have shaped the design and operation of business-led, technology-based worker reporting tools. The following sections identify key areas in which this is the case, along with new concerns that have emerged in the technology-based worker reporting context.

Data May Not Accurately Reflect the Core Problems

Worker reporting tools have emerged in a broader socio-cultural moment of a booming global 'indicator culture' defined by faith in the rationality of numerical

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[38] Report of the 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*, A/HRC/17/31, 21 March 2011. See also Sustainable Development Agenda, SDG 8.8: United Nations General Assembly, *Transforming Our World: The 2030 agenda for sustainable development*, Seventieth session, A/RES/70/1, 25 September 2015.

[39] E.g. K Skrivankova, *Base Code Guidance: Modern slavery, ethical trading initiative*, Ethical Trading Initiative, 3 July 2017, https://www.ethicaltrade.org/sites/default/files/shared_resources/eti_base_code_guidance_modern_slavery_web.pdf.

[40] E.g. Responsible Business Alliance, RBA Code of Conduct 6.0, 1 January 2018, http://www.responsiblebusiness.org/code-of-conduct.

[41] I Landau and S Marshall, 'Should Australia Be Embracing the Modern Slavery Model of Regulation?', *Federal Law Review,* vol. 46, no. 2, 2018, pp. 313-339, https://doi.org/10.1177/0067205X1804600206.

[42] LeBaron, Lister and Dauvergne, 'Governing Global Supply Chain Sustainability', p. 958.

data as systems of meaning and accurate depictions of the world.[43] In reality, all data is created and is not just objectively 'out there' waiting to be collected and reported upon.

Worker reporting tools present unprecedented opportunities to collect first-hand data directly from workers. However, the extent to which that data accurately reflects working conditions (especially for the most vulnerable workers) depends on a range of choices made by the data collector. These include the topics on which workers' input is sought, how those topics are framed, which workers are approached for input, the design and implementation of the digital tool, and how the data is analysed and presented. The impact of these choices is compounded by the fact that they are generally invisible to consumers of the data, who may form views or base their decisions on unfounded assumptions about the quality of the data.

Digital Tools May Not Collect the Right Data

Businesses generally determine the scope of the issues on which worker data is collected, whether in their own business or in the businesses of suppliers. Some may not want to collect information that reveals the true depth and extent of problematic recruitment practices and poor working conditions, and may therefore frame questions to elicit benign responses or avoid directing questions to the most sensitive areas. This reluctance may stem from perceived financial, legal and/or reputational risks of possessing this knowledge and placing the business on notice of serious problems. It may also reflect an unwillingness to invest effort and resources in changing business practices and remediating problems identified by the information collected, or a perceived lack of leverage to generate change.

As a result, companies may present positive worker feedback on a limited set of questions which either misleadingly suggests generally satisfactory working conditions, or indicates the existence of lesser problems that the company can demonstrate it is addressing (e.g. poor quality of food provided to workers). Data gathering on less serious issues that do not reflect workers' primary concerns can have further flow-on effects on the quality of data collected. For example, workers may 'conclude that the exercise is not important or relevant to their lives, and therefore not worth investing effort and making a leap of faith to divulge more sensitive truths'.[44]

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[43]   S E Merry, *The Seductions of Quantification: Measuring human rights, gender violence, and sex trafficking*, University of Chicago Press, Chicago, 2016; S E Merry, 'Counting the Uncountable: Constructing trafficking through measurement', in P Kotiswaran (ed.), *Revisiting the Law and Governance of Trafficking, Forced Labor and Modern Slavery*, Cambridge University Press, Cambridge, 2017, p. 273.

[44]   Rende Taylor and Shih.

Digital Tools May Not Capture Data from a Representative Cohort of Workers

Rapid growth in smartphone ownership undoubtedly opens new opportunities to engage hard-to-reach populations such as migrant workers. Nevertheless, more vulnerable workers face a range of barriers to using digital tools and may be harder to access. This, in turn, may distort the sample of workers within a supply chain from whom data is gathered and exclude those most vulnerable to serious problems. For example, tools may only be deployed to engage workers in the first or second tiers of suppliers who are easier for a lead firm to identify and reach, failing to capture working conditions at lower levels of the supply chain where oversight is weakest and the most serious abuses often occur. Other contextual factors such as age, income level, education, gender, IT environment and migration status continue to limit access to digital tools.[45] Migrant workers are less likely to be able to afford regular data access[46] and may have limited literacy in their own language or the language of their country of employment.[47] For example, one company noted that response rates to their IVR-enabled tool were low largely due to the lack of a mechanism to reimburse workers for their mobile costs.[48] Access can also be severely inhibited when businesses (and states) do not establish legal and practical safeguards to guarantee workers' access to their phone and other technology at a worksite, such as a fishing vessel.[49]

These barriers often intersect with cultural and gender norms. Tools may fail to reach significant cohorts of workers where specific efforts are not made to engage

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[45]   The Economist Intelligence Unit, *The Inclusive Internet Index 2019: Executive Summary*, 2019, p. 15, https://theinclusiveinternet.eiu.com/assets/external/downloads/3i-executive-summary.pdf; Pew Research Centre: Internet & Technology, *Demographics of Internet and Home Broadband Usage in the United States*, 5 February 2018, https://www.pewinternet.org/fact-sheet/internet-broadband/.

[46]   J Ticona, 'New Apps like Jornalero Aim to Protect Low-Income Workers. Here's How They Could Backfire', *Slate*, 21 March 2016, https://slate.com/technology/2016/03/new-apps-like-jornalero-aim-to-protect-low-income-workers-here-s-how-they-could-backfire.html.

[47]   S Jue, 'Her Voice in the Making: ICTs and the empowerment of migrant women in Pearl River Delta, China', *Asian Journal of Women's Studies*, vol. 22, no. 4, 2016, pp. 507-516, p. 509, https://doi.org/10.1080/12259276.2016.1242947, citing J L Qiu, '"Power to the People!" Mobiles, Migrants, and Social Movements in Asia', *International Journal of Communication*, vol. 8, no. 1, 2014, pp. 376-391.

[48]   WEST Principles, p. 16.

[49]   A Shen and A McGill, *Taking Stock: Labor exploitation, illegal fishing and brand responsibility in the seafood industry*, International Labor Rights Forum, May 2018, p. 50, https://laborrights.org/sites/default/files/publications/Taking%20Stock%20final.pdf.

women or non-dominant groups.[50] As noted by Laborlink in relation to its Bangladesh Collaborative, women's 'lack of confidence with technology and general deference to men' may explain their underrepresentation in worker surveys.[51] Accessibility and uptake may be compromised when design processes do not include workers, or are not iteratively improved with input from workers, unions and other worker representatives.

Experts have advised companies and technologists to address these barriers to workers' engagement and ensure accessibility of digital tools.[52] This includes, where appropriate, minimising the amount of data required to use the tools and compensating workers for their time and data usage, configuring tools in all users' languages and dialects, and giving the option of voice-based technology.

Data May Be Superficial, Vague or Conceal Problems

The need for large-scale data that is easily captured, compared and generalisable comes with trade-offs. On the one hand, reducing workers' experiences to numeric data, rather than individual narrative data, enables swift and low-resource analysis of large datasets. However, without contextualisation, data drawn from workers' choices between limited pre-selected responses may fail to capture workers' true perceptions and experiences. It can also mask the subjectivity of responses where workers do not interpret the pre-selected responses in the same way. For example, ratings systems ('On a scale of 1-5 how would you rate the safety of your work environment?') are highly subjective: one worker may rate safety '2' while another worker rates the same conditions '4' based on different expectations, understanding of risk or personal attitude to ratings.

In the case of particularly sensitive issues, a lack of context for the question or trust-building with workers may result in misleading data. For example, if a reporting tool asks women, 'Have you experienced sexual harassment in your workplace?', high rates of the answer 'No' may reflect a lack of this experience, but just as plausibly may suggest a lack of trust to report its occurrence, or a lack of understanding about what this means. These challenges especially arise when survey questions are not designed or tested with worker input, or without extensive interpersonal engagement and support for workers around data collection to establish trust. As worker-engagement digital tool providers compete to sell their services to multinational companies in a market characterised by a 'pricing race to the bottom', there is a danger that 'support is vacuumed out of the way digital

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50   Interview, H Canon, ELEVATE, July 2018.

51   WEST Principles, p. 21.

52   L Kalbag, *Accessibility for Everyone*, A Book Apart, 2017, https://abookapart.com/products/accessibility-for-everyone.

worker engagement is delivered'.[53] At the extreme end of the exploitation continuum, identifying individual instances of forced labour, modern slavery and/or trafficking through worker reporting tools is particularly fraught since it raises not only issues of worker trust and awareness, but also requires complex and individualised legal determinations that are context-specific and generally require data gathering through individual interviews.

It is impossible for an outside observer to interpret the extent to which the data truly reflects workers' experience without a deep understanding of many aspects of the context in which it was gathered, including how the questions were framed and the conditions under which the data was collected (e.g. level of in-person support for workers, incentives and consequences for workers of providing data or revealing problems, workers' relationships with management and each other, pre-existing fears, level of understanding and socialisation of the tool, etc.).

Problems can also arise in relation to how the data is analysed and used, particularly when the data is owned by the business. The extent to which workplace issues reflected in the data can be identified and understood will also depend on the level of aggregation of that data, since a higher level of aggregation may conceal problems encountered by particular groups of workers or under particular conditions.[54] For example, averaging out poor experiences of one group and good experiences of another will indicate decent conditions overall.

As other technologies, such as blockchain,[55] are developed to identify and track the provenance of goods in complex supply chains, digital worker engagement tools may be used to provide an 'objective' quantified measure or score of working conditions at particular worksites, which is then captured in the blockchain. There is a real risk that perceptions of the incontrovertibility and integrity of blockchain technology may be attributed to the underlying worker data itself, further diminishing outside scrutiny of the quality or reliability of that data. As commentators have noted, blockchain does not solve the old computer science problem of 'garbage in, garbage out',[56] and there is a risk of digital tools 'enabling and accelerating the scale-up of more bad audit data'.[57]

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[53] Interview, L Esterhuizen, &Wider, July 2018.

[54] Interview, S Lee, Caravan Studios, July 2018.

[55] Blockchain is a technology that verifies and stores transactions, including the recording of data, in a de-centralised and secure system.

[56] J Nolan and M Boersma, 'Blockchain can help break the chains of modern slavery, but it is not a complete solution', *The Conversation*, 2 May 2019, http://theconversation.com/blockchain-can-help-break-the-chains-of-modern-slavery-but-it-is-not-a-complete-solution-115358.

[57] Rende Taylor and Shih, p. 29.

Lack of Adequate Outcomes for Workers

Worker reporting tools are often described as 'worker voice' initiatives. However, in many cases, the tools neither yield outcomes for workers nor transform power relations within the structures in which they work to give workers a meaningful voice.[58] This is a result of the tools being primarily directed at identifying risk rather than a broader worker-centred theory of change that links obtaining information from workers to outcomes that benefit those workers.

By recasting the problem of exploitation in supply chains as a lack of information on exploitation, acquiring large datasets can be given undue weight as evidence of addressing risk and taking steps to address exploitation itself.[59] Meanwhile, individual harms and systemic poor conditions may remain broadly unchanged and unremedied. Indeed, the data gathering exercise can divert attention from *known* drivers of migrant workers' precarity, such as the global 'race to the bottom' pricing of goods and services, lack of freedom of association, and weak government enforcement, and ensure that these drivers remain unaddressed.

A worker-centred approach requires suppliers and brands to take specific measures in response to feedback, independently evaluate those measures, and set deadlines or timeframes for that implementation.[60] This may involve gathering further data from workers on whether their grievances were addressed or working conditions improved after using a reporting tool.[61] This assessment takes time and requires ongoing evaluations,[62] which many businesses do not undertake. There is also the risk that businesses frame questions to allow them to demonstrate action on a much narrower scale than the problem demands. Alternatively, when squarely in a risk minimisation framework, global brands may 'cut and run' in response to

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[58] Issara Institute, *What Is 'Worker Voice' in the Context of Global Supply Chains?*, November 2017, https://docs.wixstatic.com/ugd/5bf36e_29160d3cfe05485e835b-14c4d3dc43de.pdf; L Esterhuizen, 'Are Worker Voice Tools Really About Workers' Voices?', *Ulula*, 3 May 2016, https://ulula.com/are-worker-voice-tools-really-about-workers-voices/; K Jones with D Nuriyati, *Increasing Transparency in International Recruitment: An evaluation of "PantauPJTKI" (Recruitment Watch)*, Centre for Trust Peace & Social Relations, Coventry University, n/d, on file with authors.

[59] D Gibson, 'SeaWeb 2019: Technology not enough to guarantee migrant fisher safety, group fears', *Undercurrent News*, 10 June 2019, https://www.undercurrentnews.com/2019/06/10/seaweb-2019-international-stakeholder-group-takes-small-scale-asian-shrimp-farmers-global.

[60] Ensuring workers' access to justice and the provision of timely and adequate remedies for their grievances lies at the heart of a worker-centred approach: 'Worker-Driven Social Responsibility Network', retrieved 14 June 2019, https://wsr-network.org.

[61] Interview, H Canon, ELEVATE, July 2018.

[62] Interview, C Rojas, The Workers Lab, July 2018.

poor worker feedback, terminating contracts with those suppliers in favour of others. This either leaves those workers in poor conditions with recruitment debt, or causes them to lose their job, further undermining their wellbeing and potentially resulting in their deportation.[63]

In general, it may be unethical to collect sensitive data from vulnerable populations, and to ask (or demand) a worker's time and contribution, without using the data to meaningfully improve workers' circumstances in the longer-term.[64] This also presents a challenge for companies selling digital worker engagement tools, in considering whether and to what extent they should evaluate a potential client's willingness to identify serious problems through the data they collect from workers, and capacity to address those problems.[65] As a practical matter, when workers feel that data collection wastes their time and energy by failing to meet their expectations of improved conditions, this may also discourage their future engagement and damage rapport, which takes time to establish.[66] As one digital platform notes, 'Research that lacks a purpose or meaningful follow-up will create problems for others that want to interact with the same population.'[67]

More fundamentally, the use of digital worker reporting tools may actually diminish worker power. Although they are billed as 'worker voice', these tools seek to passively gather data from workers in ways that do not enable workers to amplify their voices through collective organising. Indeed, companies may seek to justify avoidance of collective bargaining and engagement with unions on the basis that they have already invited and heard 'worker voice' through the digital platform.[68] However, in reality, these tools reflect workers' aggregated individual 'voice' rather than the empowered collective voice. In most cases, workers do not determine the issues on which data is sought, nor from whom or in which ways the data is collected. Workers and worker organisations face acute challenges when seeking to expose gaps or distortions in polished-looking data where they are not

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[63]   Interview, L Esterhuizen, &Wider, July 2018; Rende Taylor and Shih, p. 4.

[64]   Rende Taylor and Shih, p. 35.

[65]   Interview, S Lee, Caravan Studios, July 2018.

[66]   Interview, Z Rahman, The Engine Room, July 2018.

[67]   WEST Principles, p. 21.

[68]   P Kyritsis, G LeBaron and M Anner, 'New Buzzword, Same Problem: How "worker voice" initiatives are perpetuating the shortcomings of traditional social auditing', Business & Human Rights Resource Centre, 12 March 2019, https://www.business-humanrights.org/en/new-buzzword-same-problem-how-worker-voice-initiatives-are-perpetuating-the-shortcomings-of-traditional-social-auditing; Rende Taylor and Shih.

provided full access to its contents[69] or lack the resources or training to conduct a probing analysis of the data.

Potential Harms to Workers' Safety and Wellbeing

Platforms that collect data about migrant workers, their activities or their experiences can create risks to individuals or groups of workers.[70] These risks may arise whether the platform is collecting personal data intentionally, or as a by-product of collecting other data. For example, a third party could gain unauthorised access to a worker's information by accessing the worker's device (e.g., taking their phone), or a centralised database could be hacked or unintentionally leak data related to many workers (e.g., through a security mistake). Government or private parties may also access information by subpoenaing it through legal processes.[71] The harms that could flow from third-party access to workers' data include alerting migration officials to a breach of workers' visa conditions, or sharing data with an employer or recruiter who may retaliate against workers for providing unfavourable information about them. This could result in personal security threats to the worker or her family, job loss, or prosecution for criminal defamation. There are also risks that the tools are misused for greater worker surveillance. For example, tools designed to ensure accurate piece-rate payment can also be 'used to punish low performing workers, monitor bathroom breaks, or discriminate against those with conditions impacting their work outputs'.[72]

Clearly, initiatives intended to benefit workers should protect workers' privacy and security by ensuring that workers' data is collected, stored and used

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[69] To address this barrier, some have proposed that Global Framework Agreements could ensure unions and workers' access to survey results, grievance mechanisms and protective measures for whistle blowers: Shen and McGill, pp. 30–31.

[70] Gibson. More broadly, concerns about the surveillance of vulnerable populations and the use of data for various purposes have been raised about 'surveillance humanitarianism' (M Latonero, 'Stop Surveillance Humanitarianism', *New York Times*, 11 July 2019) and 'surveillance capitalism' (S Zuboff, *The Age of Surveillance Capitalism: The fight for a human future at the new frontier of power*, Barnes and Noble, New York, 2019).

[71] Interview, R Micah-Jones, Centro de los Derechos del Migrante, Inc., July 2018.

[72] E Marcum, 'Opportunities and Tradeoffs: Our commitment to empower workers through responsible supply chain tech', *Working Capital*, 1 November 2018, https://workingcapitalfund.com/opportunities-and-tradeoffs-our-commitment-to-empower-workers-through-responsible-supply-chain-tech/.

responsibly,[73] and in accordance with legal data protection frameworks and best practice. This is especially the case when security risks are not visible or understood by workers,[74] and when data is collected in countries with weak security and rule of law. It is unclear whether businesses using digital worker engagement tools are obtaining the workers' informed consent to the use of their data, with knowledge of why the data is being collected, what it will be used for, with whom it will be shared, potential risks, and expected impacts. Indeed, in a competitive commercial market for worker reporting tools, there remain strong disincentives against honest appraisals of actual or possible risks in soliciting data, or the development of frameworks for accountability to workers if their security or safety is compromised.

One way for all technology developers is to systematically address these risks and formulate a 'theory of harm' establishing a taxonomy of the worst possible harms to workers, along with mitigation strategies.[75] This requires consideration of potential harms associated with data collection, and the organisation's ongoing capacity to monitor and respond to later risks to workers when their data is used or shared. Minimisation of risks to workers may not be straightforward and may require trade-offs between other worker and business priorities. For example, collecting anonymised data or less data can better protect workers,[76] but lack of information about a worker's identity may compromise an organisation's capacity to verify or contextualise that data or provide remedies to that individual. In addition, addressing risks at each stage of the data life cycle requires an investment of resources and time on the part of the business.

Further and different risks and considerations arise in relation to the sharing of worker data beyond the business. For example, some have called for integration of worker data for corporate compliance across different platforms to better inform law enforcement efforts to address trafficking or deregister recruitment agencies. As one commentator noted, 'It makes what we do morally questionable if we are not collaborating to build a bigger picture to drive resources where they are needed

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73 'WEST Principles: Manage security & risk', retrieved 14 June 2019, https://westprinciples.org/manage-security-and-risk/. A guide published by the Issara Institute considers risks associated with technology for migrant workers and trafficked persons: see L Rende Taylor and M Latonero.

74 Z Rahman, 'RD 101: Responsible Data Principles', *Responsible Data*, 24 January 2018, https://responsibledata.io/2018/01/24/rd-101-responsible-data-principles/.

75 L Chambers, 'Utopian and Dystopian Theories of Change: A template', *Responsible Data*, 6 March 2015, https://responsibledata.io/2015/03/16/utopian-and-dystopian-theories-of-change-a-template/; Interview, M Latonero, Data & Society, July 2018.

76 Data minimisation is considered best practice for responsible data: The Engine Room, Benetech and Amnesty International, *DATNAV: How to navigate digital data for human rights research*, June 2016, https://www.theengineroom.org/wp-content/uploads/2016/09/datnav.pdf.

most, to workers who need them most.'[77] However, sharing even aggregated data may enable government or private parties to use that data to the detriment of workers, for example by identifying cohorts of 'troublemakers' or geographically locating groups of workers who may be targeted by law enforcement (e.g. unauthorised workers).

Conclusion

Within complex global supply chains, worker reporting tools present new opportunities to gather information directly from workers on their labour and recruitment conditions, at scale, and across many worksites and countries. But gathering high-quality data remains difficult. With a few notable exceptions, most worker engagement tools are still in development, pilot or early stages and the market is largely driven by public and private donors.[78] Investors, donors, governments and consumers have a significant opportunity to shape the way in which these tools are developed and deployed. In particular, they can demand greater transparency regarding how worker data was collected and analysed, the extent to which that data accurately reflects working and recruitment conditions across a worksite or supply chain, and measures taken to identify and address risks to worker privacy and security in the collection and use of the data.

Where data is collected effectively, this is only the first step. Deeper efforts to meaningfully address labour exploitation, trafficking and modern slavery can be expensive, time consuming and require greater organisational commitment and leverage to change incentive structures. Technology can substantially increase efficiency and reduce the costs of engagement with workers at scale. However, digital tools generally do not improve the commercial viability of addressing the problems identified.

Nor does technology address macro-structural drivers of worker exploitation. Within business and shareholder drive for profit and consumer demand for cheap goods and services across global markets, reducing labour costs is often the easiest way to reduce overall costs and increase profit margins. Vulnerable workers accept these reduced costs (and resulting exploitation) for a range of reasons, including a fundamental power imbalance between individual workers and their employers

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[77]   Interview, L Esterhuizen, &Wider, July 2018.

[78]   S Goswami, *Technology to Address Human Trafficking & Forced Labour in Supply Chains: A landscape analysis and recommendations for brands, developers and investors*, Technology Brief, Issara Institute, October 2016, p. 1, https://media.wix.com/ugd/5bf36e_df5b1c84cb0641759d3275ed034439aa.pdf; Interview, D Viederman, Humanity United, July 2018; 'Working Capital: The supply chain innovation fund', *Working Capital,* retrieved 14 June 2019, https://workingcapitalfund.com/.

and recruiters. The aggregation of worker data through digital reporting tools does not rebalance the power asymmetry that renders workers vulnerable to exploitation: this requires genuine worker voice through freedom of association and collective action. Digital reporting tools are therefore embedded in—and have evolved from—the same political economy dominated by industry-led and privatised modes of supply chain global governance which tend to 'perform … a stabilizing and legitimizing role' for the continuation of the business status quo.[79] In contexts where genuine worker voice, freedom of association and collective action are absent, digital worker reporting tools may still assist businesses to reduce exploitation, but only if the business is committed to investing resources to ensure the data collection is robust and informed by workers' concerns and safety, and to meaningfully address the problems identified.

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[79] LeBaron, Lister and Dauvergne, 'Governing Global Supply Chain Sustainability', p. 972.