TRANSFORMATIVE TECHNOLOGY FOR MIGRANT WORKERS

OPPORTUNITIES, CHALLENGES, AND RISKS

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Migrant workers for a crane operating company having breakfast in Dubai, United Arab Emirates, Dubai, January 2, 2007.

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I. INTRODUCTION

Across the world, low-waged migrant workers encounter abuses of their labor rights and other forms of mistreatment at all stages of the migration process. This includes deceptive practices by recruitment agencies, underpayment and poor and unsafe working conditions at their site of employment, and other exploitative practices that may amount to criminal forced labor or human trafficking offenses.Abuses are often underpinned by profound power and information asymmetries between migrant workers and their recruiters, employers, and other intermediaries. A range of structural forces drive exploitation of migrant workers. Fundamentally, these include a global economy and globalized supply chains and labor markets in which there is demand for ever-cheaper goods and services produced with low labor costs. Demand for jobs among low-waged migrant workers generally outweighs the number of jobs available, exacerbating migrant workers' vulnerability to exploitation in combination with other factors such as language, education level, lack of familiarity with local culture and legal rights, and debt incurred in order to migrate. In countries of origin and employment, state enforcement of minimum labor standards and other legal protections is frequently lacking. Many migrant workers are isolated and not formally organized within trade unions; legal and other forms of assistance are highly limited. As a result, exploitative recruitment and labor conditions generally remain invisible to consumers, multinational brands, government, and fellow migrant workers.

THIS REPORT FOCUSES ON DIGITAL PLATFORMS THAT FACILITATE MIGRANT WORKER ENGAGEMENT IN ORDER TO IMPROVE WORKING CONDITIONS.

Recognizing the limitations of traditional "offline" efforts to address these seemingly intractable challenges, advocates, business, unions, governments, donors, and others have sought creative new solutions by mobilizing technology's capacity for unmediated connectivity, scale, and speed.

This report focuses specifically on digital platforms that facilitate migrant worker engagement. These platforms all incorporate migrant workers' input or expression with a view to improving working conditions. For instance, digital platforms have been developed to transform the power and information asymmetries that underpin exploitation. These platforms can enable migrant workers to access the specific information they need to make choices at different stages of the migration process and assert their rights. Digital platforms have been built to connect and organize workers and enable them to share their experiences and strategies, and to collectively advocate for better conditions. Governments and civil society organizations have sought technological solutions to overcome the barriers facing migrant workers who wish to register complaints and pursue remedies. At the same time, some businesses have mobilized technology to enable them to obtain information from unprecedented numbers of workers in their supply chains about their recruitment and working conditions and identify poor practices among suppliers, while consumers, advocates, and law enforcement demand reform.

Recognizing that technology itself is "neither good or bad; nor ... neutral",[1] this report aims to promote well-considered and responsible approaches to the funding, development and implementation of digital initiatives. It seeks to harness

[1] Melvin Kranzberg, "Technology and History: Kranzberg's Laws," *Technology and Culture* 27, no. 3 (1986): 547 https://doi.org/10.2307/3105385; see also Kentaro Toyama, *Geek Heresy: Rescuing Social Change From the Cult of Technology* (New York: PublicAffairs, 2015) ProQuest eBooks Collection.

benefit from transferable lessons across a diverse range of platforms that engage with workers. It focuses specifically on digital platforms for migrant worker engagement because the development of the wide range of these tools has been both rapid and siloed, and the landscape, therefore, has not been collectively considered.

Section I of this report begins by mapping the current platform landscape. **Section II** considers digital tools that enable businesses to engage with migrant workers in their supply chains. **Section III** focuses on migrant worker engagement functions outside of the supply chain context. These include:

RECOGNIZING THAT TECHNOLOGY ITSELF IS "NEITHER GOOD OR BAD; NOR ... NEUTRAL", THIS REPORT AIMS TO PROMOTE WELL-CONSIDERED AND RESPONSIBLE APPROACHES TO THE FUNDING, DEVELOPMENT AND IMPLEMENTATION OF DIGITAL INITIATIVES.

A. Enabling workers to rate and review recruiters, employers; and other intermediaries;
B. Facilitating workers' remediation and access to justice;
C. Providing workers with responsive, relevant and tailored information; and
D. Promoting worker organizing and collective action.

Within each of these sections, we consider the particular challenges and risks associated with each type of worker engagement platform.

Section IV then considers cross-cutting challenges, risks, and tradeoffs. These include:

A. Factors that contribute to, or undermine, the effectiveness of worker engagement platforms, in terms of addressing identified problems and yielding clear outcomes for workers;
B. Privacy and security risks to workers;
C. Legal and other risks to platform hosts including risks related to data protection compliance, defamation, and reputational and financial concerns;
D. Challenges regarding design and implementation of digital platforms to maximize worker uptake; and
E. Sustainability and scalability of platforms, whether designed for civil society or business.

We conclude by identifying tradeoffs between competing desirable practical and ethical ends for stakeholders who are committed to using digital technology to empower and deliver outcomes for migrant workers and safeguard against risks.

The report does not consider a range of other promising digital platforms that have been developed to protect and empower migrant workers where they do not directly elicit their engagement beyond mechanical inputs. For example, states are developing systems for e-governance of recruitment, alongside private sector digitization of recruitment functions and electronic payment of wages, recruitment fees, and remittances.[2] Digital technology initiatives are being developed, including using blockchain technology, to trace and verify the provenance of goods and related labor conditions within global supply chains, along with new data collation and visualization tools that integrate multiple sources of information and big data to improve supply chain transparency.[3] Other initiatives are establishing verifiable and transparent systems of migration and employment, through smart contracts that remove opportunities for deceitful conduct.[4] The future of work is being transformed through automation and the evolution of the gig economy. Though these initiatives are not directly considered in this report, they would benefit from close examination in future studies, which would undoubtedly yield further valuable insights for worker engagement platforms.

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[2] See e.g. "BanQu," accessed July 4, 2018, http://www.banquapp.com/; "eSewa," F1Soft International, accessed July 4, 2018, http://www.f1soft.com/esewa.html; "Everex," accessed July 4, 2018, https://www.everex.io/; "NOW Money," accessed July 4, 2018, http://nowmoney.me/. See also discussion in Bassina Farbenblum and Justine Nolan, "The Business of Migrant Worker Recruitment: Who Has the Responsibility and Leverage to Protect Rights?," *Texas International Law Journal* 52, no. 1 (Spring 2017): 33; Bassina Farbenblum, "Governance of Migrant Worker Recruitment: A Rights-Based Framework for Countries of Origin," *Asian Journal of International* Law 7, no. 1 (January 2017): 173 https://doi.org/10.1017/S2044251316000011.

[3] For example, Provenance, a UK-based start-up launched in 2014, uses Ethereum-Blockchain technology to improve accountability and transparency of supply chains so that consumers, retailers and others have more information about a product's environmental and social impact: "From Shore to Plate: Tracking Tuna on The Blockchain," Provenance, July 15, 2016, https://www.provenance.org/tracking-tuna-on-the-blockchain#overview. See also "Labour Safe Screen", accessed July 4, 2018, http://www.laborsafescreen.com/; "The Responsible Sourcing Tool," accessed July 4, 2018, https://www.responsiblesourcingtool.org/; "Pulse," accessed July 4, 2018, https://pulse.direct/; "EcoVadis," accessed July 4, 2018, https://www.ecovadis.com/us/; "Sourcemap," accessed July 4, 2018, http://www.sourcemap.com/.

[4] See e.g. "Handshake" accessed July 4, 2018, https://www.handshake.com/.

The report is confined to worker engagement platforms in order to achieve a level of analytical depth that is much needed in this area. The forms of technology that underpin these platforms, in many cases, are not new, but rather have been innovatively adapted to address structural problems in new ways. We have chosen to focus on tools promoting worker engagement because these tools offer tremendous potential but also face particular challenges to adoption by migrant workers and achievement of worker outcomes and impact. These challenges are different from those faced by platforms in other areas, for instance platforms that facilitate secure and cheaper transfer of remittances, where technology is deployed to make easier an activity that migrant workers are already undertaking. By contrast, worker engagement tools are largely seeking to change the behavior of workers and other stakeholders. For example, migrant workers may not be inclined to provide feedback on their working conditions or raise complaints. Companies may not wish to hear from workers in their supply chain about their working conditions, or may not be interested in increasing the quality and quantity of the data they collect through audits. This contributes to the complexity of evaluating these tools as compared to other digital initiatives whose immediate benefit to workers may be more apparent or easier to quantitatively measure.

Methodology

The contours of this study emerged from discussions with a range of developers, platform hosts, and funders both individually and at a convening of stakeholders co-hosted by the Open Society Foundations, UNSW Sydney, and the University of Technology Sydney in February 2018 in London. This was followed by a range of individual interviews and email exchanges with digital platform developers, platform hosts, multinational businesses, migrant rights organizations, investors, government agencies and donors.[5] We also undertook a review of organizations' websites and publications in this area and identified stakeholders to interview through publicly available materials and recommendations from other expert stakeholders.

A key limitation of the study is that interviewees were confined to experts and migrant worker organizations. Due to time and funding constraints we were unable to conduct focus groups or interviews with workers, or undertake user-testing with this group. There is a strong need for this research to be conducted within future studies in the next couple of years once the initiatives profiled in this report have been operational for a period of time.[6]

This study is not intended to comprehensively identify all current migrant worker engagement initiatives. Rather, stakeholders were selected for interview in order to provide an indication of the range of issues, developments, and views across this area as a foundation for ongoing reflection and discussion.

[5] Research was conducted in accordance with HC180181 approved by the Human Research Ethics Office of UNSW Sydney.

[6] For a strong example of such research see Dr Katharine Jones with Dina 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 the authors. Furthermore, in 2018, Issara Institute and Brown University commenced a global study, "'Worker Voice' as a Means to Strengthen Remediation and Due Diligence Across Global Supply Chains: A Critical Analysis of Existing Models in Asia and the Americas" which will include interviews with workers impacted by worker feedback and worker voice programs.

II. TRENDS IN DIGITAL TOOLS THAT ENABLE BUSINESSES TO ENGAGE WITH MIGRANT WORKERS IN THEIR SUPPLY CHAINS

A. The impetus for digitized worker feedback within supply chains

Within global supply chains, workers are increasingly vulnerable to exploitation due to the complexity and opacity of global webs of labor production and downward cost pressures that intensify demands for cheap labor. This is exacerbated, and made more difficult to detect, by low levels of worker organizing and advocacy, and shifts toward sub-contracted rather than directly employed labor.[7] Against this backdrop, many businesses are now confronted with new legal due diligence and reporting requirements[8] as well as consumer, investor and/or shareholder pressure to prevent, detect, and address exploitative labor practices within their supply chains. Recognizing their legal and reputational risks, a growing number of business have committed to doing so. However, they face significant obstacles to detecting poor recruiting practices and labor conditions down their complex supply chains. In particular, conventional compliance audits and workplace monitoring are often fragmented, costly, labor intensive and open to corruption, fraud, and intimidation of workers.

There is a growing impetus for companies to demonstrate they are seeking more robust, ongoing, and unmediated engagement with workers at scale, whilst also lowering risks for those who participate.[9] This is increasingly the case for suppliers competing for contracts with buyers committed to addressing modern slavery in their supply chains. In this context, a number of digital initiatives are being developed to provide global brands and suppliers with information from migrant and other low- waged workers about their recruitment and working conditions.[10]

B. The digital worker reporting tool landscape

Digital worker reporting platforms are designed to obtain information directly from workers in order to generate data on working conditions at scale. They are marketed to businesses

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[7] Samir Goswami, *Technology Brief: Technology to Address Human Trafficking & Forced Labour in Supply Chains*: *A Landscape Analysis and Recommendations for Brands, Developers and Investors*, Issara Institute, October 2016: 1 https://media.wix.com/ugd/5bf36e_df5b1c84cb0641759d3275ed034439aa.pdf.

[8] See e.g. Modern Slavery Act 2015 (UK); California Transparency in Supply Chains Act, CAL. Crv. Code § 1714.43 (California, USA); Combating Trafficking in Persons, 48 CFR §52.222-50 (2015) (USA); Trade Facilitation and Trade Enforcement Act of 2015, Pub L No 114-125 §910, 130 Stat. 122, 239 (2016) (USA); Law No. 2017-399 on the Corporate Duty of Vigilance for Parent and Instructing Companies (France); Modern Slavery Bill 2018 (Australia).

[9] See e.g. Organization for Security and Co-operation in Europe, *Model Guidelines on Government Measures to Prevent Trafficking for Labour Exploitation in Supply Chains* (2018) https://www.osce.org/secretariat/371771?download=true.

[10] Because this report addresses technology that enables direct worker engagement, the focus of this section is confined to digital tools for wide-scale worker surveys and other reporting platforms. For examples of other forms of technology not covered in this report, see above notes 3 and 4 and accompanying text.

to enable them to detect and address worker exploitation, forced labor, and human trafficking in their own business or among subcontractors, suppliers, and recruiters in their supply chain. There may also be potential uses for these tools by government enforcement agencies, unions and, in some contexts, consumers. These platforms are sometimes referred to as "worker voice" tools. A growing body of research is examining questions around when worker input—both online and offline—constitutes genuine "worker voice" in that it yields outcomes for workers and transforms power relations within the business structures in which they work.[11]

With a few notable exceptions, most worker engagement tools are still in the development, pilot or early stages. A number of companies have begun to make significant investments in this space, although the market is still largely driven by public and private donors and investors.[12] Investors have observed that although the use of digital worker engagement tools is increasing, their potential is still largely unrealized. Uptake remains low among businesses globally, with an estimated $5 to $10 million invested annually by the private sector and a similar but growing figure spent by the philanthropic sector.[13] Similarly, governments have not yet captured opportunities for using these tools within their procurement practices.[14]

The most common form of worker engagement tools conduct worker surveys by automated calling or texting of workers on their mobile devices and seeking their answers to a limited number of questions about working conditions. In order to promote uptake, the roll-out of tools is sometimes accompanied by physical outreach, and worker participation is generally incentivized by a promise of phone credit or other monetary rewards. Unlike traditional social auditing methods, these tools can rapidly collect information from a very large number of workers across one or many worksites.[15] Some of these initiatives seek to establish ongoing two-way communication channels, for instance allowing employers to inform workers of critical information on safety or project updates, or enabling workers to register grievances. Others are used by employers primarily for one-off or periodic surveys within particular factories. Some companies do not survey workers on behalf of a client (i.e., an employer or lead firm in a supply chain) but rather engage workers directly and then collect and market aggregate data to clients in order to provide insights on market conditions across businesses or worksites.

For worker surveys, the most common mobile technologies currently used are IVR (interactive voice response), USSD (unstructured supplementary data services, a connection made through a mobile network operator's computers that tends to be more responsive than SMS), and SMS. These technologies do not require workers to use a smartphone or pay for use, and can accommodate lower levels of literacy. However, as smartphone ownership and digital literacy continues to rise rapidly, more complex technologies such as phone and web-based applications are emerging with more integrated functions.[16] Some providers, such as Laborlink, have developed criteria as to when each form of data collection may be appropriate.[17]

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[11] See e.g. Issara Institute, *What is 'Worker Voice' in the Context of Global Supply Chains*?, November 2017 https://docs.wixstatic.com/ugd/5bf36e_29160d3cfe05485e835b14c4d3dc43de.pdf; Lea Esterhuizen, "Are Worker Voice Tools Really About Workers' Voices?," *Ulula*, May 3, 2016 http://ulula.com/are-worker-voice-tools-really-about-workers-voices/.

[12] Goswami, *Technology Brief: Technology to Address Human Trafficking & Forced Labour in Supply Chains*, 1.

[13] Dan Viederman (Humanity United) in discussion with the authors, July 2018.

[14] Samir Goswami (Samir Goswami LLC) in discussion with the authors, July 2018. See also Organization for Security and Co-operation in Europe, *Model Guidelines*.

[15] They are also able to "democratise worker voice" by enabling the voices of marginalised groups of migrant workers, or those in remote locations, to be expressed equally to those of other workers. For example, Burmese workers in Thailand who are from different ethnic groups and may not feel represented or may not feel they can come forward depending on the ethnicity of worker leaders are nevertheless equally able to make statements through digital platforms on their phone: Dr Lisa Rende-Taylor (Issara Institute) in discussion with the authors, July 2018.

[16] Heather Canon (ELEVATE) in discussion with the authors, July 2018.

[17] Ibid.

Another emerging model, used by companies such as MicroBenefits and Workplace Options, integrates the potential for worker engagement and surveying into a platform that is used for human resource purposes (such as employee training or the provision of employment records) that meet the workers' and the business' needs. This model has the further benefit of engaging with workers on a platform they are already motivated to use and reducing costs to the business by adding a function to a pre-existing platform.

C. How businesses use worker reporting tools: Risks and outcomes for workers

Data ownership and risks to workers

Collection of worker data through reporting tools poses several challenges for platform hosts and client businesses. For a start, businesses have an ethical (and potentially legal) responsibility to ensure the safety and security of workers who provide information through a digital platform. The Issara Institute recommends a basic "do no harm" principle which requires due diligence about unintended negative consequences for workers from answering sensitive questions.[18] This relates both to risks associated with the collection of data and to the organization's ongoing capacity to monitor and respond to later risks to workers when their data is used or shared. Businesses also have a further responsibility to ensure workers understand and explicitly consent to the ultimate uses of their data. Questions regarding worker ownership of data, which may now have legal implications in the context of the new uniform EU General Data Protection Regulation,[19] and other security-related issues are discussed further in Section IV.B.

Companies may face further challenges regarding their responsibilities to workers whose data they collect, as well as to law enforcement. For example, a company may need to determine when and with whom to share worker data in order to ensure the greatest benefits to workers. This could include sharing data with other workers, suppliers, consumers or potentially regulators. Withholding data pending action from another actor (e.g., giving a company or regulator a chance to investigate a problem) may ultimately inhibit a timely or coordinated approach. There also remain questions regarding whether and when the platform host, client business or funder may have a *responsibility* to share the data. For instance, data collected from workers could reveal serious human rights violations, such as child labor, which may demand complex responses for which a client business may be unprepared.

Remedies and other outcomes for workers

The Issara Institute considers that providing for genuine "worker voice" entails an assessment of whether and how the collection of a worker's data will improve conditions for that specific worker, as well as for other workers more generally.[20] Companies must also have the technical capacity to drive change and/or remediation in response to the data collected, which may necessitate engaging a wide range of stakeholders within a supply chain. A lack of such capacity risks wasting workers' time and energy, failing to meet workers' expectations and creating skepticism among workers that may discourage future engagement.[21] This may be the case even when workers have been incentivized by an immediate monetary reward for participation.

Potential outcomes from worker reporting tools could include providing comprehensive and transparent feedback to participating workers on the survey results that could empower them to take individual or collective action in relation to the grievance. Feedback can also be provided on measures taken by the company in response to their input. For example, a supplier can change conditions within its own business or a buyer can demand that suppliers improve conditions and can assist them to make necessary reforms. Buyers may also pull out of supply sites when worker feedback is persistently poor, however one digital tool provider considers this an irresponsible use of their tools as it endangers workers' wellbeing. Instead, the company supports buyers to develop a response protocol to address problems identified through worker feedback.[22]

Worker outcomes may also take the form of individual remedies such as rectifying fees improperly paid by workers or

[18] Issara Institute, *What is 'Worker Voice' in the Context of Global Supply Chains?*.
[19] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons With Regard to the Processing of Personal Data and on the Free Movement of Such Data, and Repealing Directive 95/46/EC (General Data Protection Regulation) ('GDPR').
[20] Issara Institute, *What is 'Worker Voice' in the Context of Global Supply Chains?*.
[21] Ibid.
[22] Dr Lea Esterhuizen (&Wider) in discussion with the authors, July 2018.

underpayments to workers, or compensating harms suffered at the worksite. At an absolute minimum, workers should be fairly remunerated for their participation and they should actually receive the remuneration that was promised to them (e.g., phone credit), which does not appear always to occur.

FEW COMPANIES ARE USING DIGITAL REPORTING TOOLS TO PROVIDE CONCRETE OUTCOMES FOR WORKERS WHO IDENTIFY BREACHES IN LABOR STANDARDS AND OTHER GRIEVANCES.

Few companies are currently using digital reporting tools to provide concrete outcomes to participating workers who identify breaches in labor standards and other grievances. The benefits to workers of a company's use of these tools will heavily depend on: first, the selection of issues on which worker feedback is sought (e.g., whether broader labor conditions or confined to narrow issues such as food quality); and second, the outcomes for workers who provide feedback. Each of these in turn relies on the will of buyers and suppliers to act on the data they receive from workers to improve working conditions or avoid forced labor.

Challenges remain in incentivizing businesses to ensure remedial outcomes. Nevertheless, efforts are evolving through consumer pressure and emerging legal obligations. A lack of outcomes for workers cannot be solved through better design or use of technology in the absence of political will and structural incentives for action.[23] In the absence of external incentives, investors and donors may have a role in supporting or indeed demanding remediation of violations identified through worker feedback.

The potential for problematic uses of workers' data

In addition to the range of risks associated with how worker data is collected, problems can arise in relation to how the data is analyzed and used, particularly when the data is owned by the buyer or supplier. Reducing workers' experiences to numeric data can carry serious risks of misinterpretation. At the most basic level, the measurable nature of large-scale survey data can mask its subjectivity, particularly in the case of ratings systems. Lack of information on the context of worker responses can misrepresent an issue. This may be especially the case where survey questions are not designed or tested with worker input. For instance, the precise reasons for a certain worker's dissatisfaction with working conditions may remain obscure. A company's ability to identify and understand workplace issues reflected in the data 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.[24] Information may also be presented inaccurately as reflecting all working conditions throughout a supply chain, when it only captures data obtained from the most accessible workers in the first or second tiers of suppliers. There may be a role for civil society or unions in advising on the quality of data.

At the more extreme end, there are incentives for buyers and suppliers to use digital worker reporting tools to deliberately create a misleading impression of compliance with labor standards and recruitment requirements. For example, there is a risk that suppliers or buyers may present their use of worker reporting initiatives as satisfying their responsibilities for addressing exploitation in the absence of genuine worker outcomes that are often harder and more costly to achieve. There is also the risk that businesses may frame questions so as to allow them to demonstrate action on a much narrower scale than the problem demands. Or they may use the initiatives to justify avoiding collective bargaining on the basis that the platforms have already enabled the business to hear workers' voices.

Worker reporting platform providers are aware of the risks that their tools may be used by suppliers or buyers in ways that do not ultimately benefit workers or improve conditions or, indeed, that may cause workers harm. Those who market these tools confront challenging decisions regarding whether they should work with companies that lack the will or capacity to deliver outcomes to workers in response to the data, whether within their own worksite or through influencing other actors within their supply chain. Some reporting tool providers

[23] Samir Goswami (Samir Goswami LLC) in discussion with the authors, July 2018.
[24] Stephen Lee (Caravan Studios) in discussion with the authors, July 2018.

believe they have a responsibility to workers who use their tool, and impose worker-centered screens in selecting their clients.[25] However, given the extent of non-compliance and lack of outcomes for workers in many contexts, as well as the lack of external scrutiny of screening criteria and decisions, these screens are difficult to assess and impose. Other reporting tool providers are willing to work with a broader range of companies on the basis that transparency regarding working conditions is always beneficial and may prompt change among recalcitrant suppliers.[26]

D. Realization of the benefits of worker reporting tools

Effective design and deployment of worker reporting tools

According to one company, the integration of digital worker engagement tools into existing human resources and health and safety systems has been critical to the tools' effectiveness.[27] Such integration may involve daily worker engagement, worker induction events, training all layers of staff, and identifying individual champions. Early robust engagement in relation to the design and use of the tool is also important not only with workers, but also with the firm's clients and contractors, including relevant government agencies that may need to approve the deployment of these tools.[28] Suppliers' or subcontractors' support for a tool may depend on making the business case for its use in the context of their own liability and risk exposure.[29]

The business case for worker reporting tools

Some businesses may be motivated to adopt worker-reporting tools in order to increase worker productivity and reduce strikes, absenteeism, and worker turnover through improved working conditions, better training, and more robust communication between employers and workers.[30] Other businesses may be incentivized by the need to better understand working conditions in their supply chain in order to address the legal, reputational, and consequent financial risks of unanticipated public exposure of exploitation or worker unrest.[31] Uptake appears to be more likely where there are existing regulatory obligations or a company has made voluntary commitments regarding workers in its business or supply chain.[32] Indeed, factories may be far more likely to adopt worker reporting tools where there is pressure or support from the businesses to whom they supply.[33] The degree of influence that multinational businesses have over factories varies in different industries and contexts. For instance, where a factory supplies mostly or exclusively to one business, that business may have greater commercial incentives and leverage to support (or require) the implementation of worker reporting tools within a factory.[34] One digital tool provider has observed the importance and challenge of ensuring buyers remain engaged with suppliers to improve their performance, because when buyers are disengaged suppliers are less likely to invest effort and time to implement improvements in response to worker feedback.[35]

The value of digital tools lies particularly in their potential to rapidly collect and transmit information that can influence a business' decisions regarding its suppliers and subcontractors in real time, rather than on the basis of historical information as may be the case with traditional auditing methods.[36] The tools also offer businesses the ability to obtain data from large numbers of workers at scale.

Naturally, businesses must have confidence in the data's quality, representativeness, and reliability in order to use it as a basis for significant commercial decisions.[37] The desire for scale may need to be balanced against of depth of contact with workers, which may yield greater trust and more comprehensive and honest information and therefore more

[25] E.g. Laborlink, Ulula and MicroBenefits.
[26] E.g. LaborVoices.
[27] Representative of multinational business in discussion with the authors, July 2018.
[28] Ibid.
[29] Ibid.
[30] Elena Fanjul-Debnam (Workplace Options) in discussion with the authors, July 2018.
[31] Ibid.
[32] Dan Viederman (Humanity United) in discussion with the authors, July 2018.
[33] Elena Fanjul-Debnam (Workplace Options) in discussion with the authors, July 2018.
[34] This has been the case, for example, with Adidas and a number of its factories: Ibid.
[35] Dr Lea Esterhuizen (&Wider) in discussion with the authors, July 2018.
[36] Louise Nicholls (Marks & Spencer PLC).
[37] Ibid.

reliable data. However, this also involves substantial resources at additional cost.

Perceptions of the value-for-money of worker reporting tools may depend on whether companies use them instead of traditional social auditing, to enhance or verify existing social auditing practices, or primarily as a human resource tool.[38] For businesses that view the tools as an add-on to extensive social auditing, the benefits of the tools may be weighed against extra costs to socialize the tool, and to analyze and respond to greater quantities of data than they are used to obtaining.[39] Nevertheless, for an increasing number of businesses, the tools offer a cost-effective way of undertaking social auditing that addresses legal and reputational risks while fulfilling existing human resource functions.

Benefits of worker reporting tools for other stakeholders

Trade unions and other worker organizations have observed the potential for worker reporting tools to support their advocacy for long-term systemic change. Provided that workers can access data obtained through these tools, they can use it to inform collective bargaining efforts and demand remediation of violations that have been reported.[40] Access to that data may assist worker organizations to demonstrate the need for businesses to establish stronger grievance mechanisms or for states to allow migrant workers to organize.

Often, however, neither workers nor unions have access to the aggregated worker data collected by employers. To address this, legally binding agreements with companies could ensure workers' access to these tools and related grievance mechanisms, and incorporate protective measures for whistleblowers.[41] The International Labor Rights Forum has observed that there may be scope to integrate worker reporting platforms into Global Framework Agreements that create a role for trade unions to facilitate dialogue on issues raised by workers.[42]

Finally, there may be opportunities for data collected by companies to be used by other stakeholders. For example, law enforcement agencies seeking to address criminal forced labor and trafficking may use data for intelligence-gathering purposes, but this may be hampered by constraints such as anonymity of data or chain of custody (i.e., who has handled the data). Where companies are willing to make the data public it may be used by consumers to inform their purchasing decisions, potentially rewarding companies that collect and address worker feedback at scale within their supply chains.

E. Industry recognition of risks and development of guidance principles

In light of many of these considerations, key business and non-profit stakeholders have recognized the potential for a "race-to-the-bottom" by technology providers resulting in "poorly designed interventions that fall short of their promise."[43]

In this context, a number of industry groupings have sought to identify principles for ethical and impactful practice in the use of worker engagement tools.[44] In December 2017, the Worker Engagement Supported by Technology (WEST) Principles[45] were collaboratively developed by a coalition of non-profit and for-profit technology providers to maximize the impact of technology-driven efforts to engage workers in global supply chains. They were devised to "align all actors around a set of design and implementation guidelines that will ensure that technology is leveraged for good." The eight principles are intended to mobilize industry leaders and create a space for shared learnings around worker engagement in future.

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38 Ibid.
39 Interview with multinational business representative, June 2018.
40 Monika Hartsel (Solidarity Center) in discussion with the authors, July 2018.
41 International Labor Rights Forum, *Taking Stock: Labor Exploitation, Illegal Fishing and Brand Responsibility in the Seafood Industry*, May 2018, 30-31 https://www.laborrights.org/sites/default/files/publications/Taking%20Stock.pdf.
42 Ibid 53.
43 "WEST Principles," accessed July 5, 2018, https://westprinciples.org/about/.
44 See e.g. The Santa Clara Principles, proposed in 2018 at the Content Moderation at Scale conference in Washington D.C. as initial steps that companies engaged in content moderation should take to provide meaningful due process to users and ensure that the enforcement of their content guidelines is fair, unbiased, proportional and respectful of users' rights: "The Santa Clara Principles on Transparency and Accountability in Content Moderation" accessed July 5, 2018 https://newamericadotorg.s3.amazonaws.com/documents/Santa_Clara_Principles.pdf. See also, the Principles For Digital Development which are designed to help digital development practitioners integrate established best practices into technology-enabled programs: "Principles For Digital Development," accessed July 5, 2018 https://digitalprinciples.org/.
45 Convened by Humanity United and Laborlink by Good World Solutions, the authors of the WEST Principles also include GeoPoll, MicroBenefits, Ulula, and Workplace Options.

They have been recommended within industry benchmark assessments in relation to forced labor.[46]

The first principle, Start with Integrity and Purpose, reflects a concern that, from its inception, technology may not serve the needs of workers or be developed with a detailed understanding of workers' local context. Two further principles relate to design, Use Worker-Centric & Inclusive Design and Build Trust with Workers. These are directed toward avoiding harms to workers through reprisals, lack of transparency with workers about processes and projected outcomes, and unequal access to technology that may exclude vulnerable populations.

Principle four, Facilitate Uptake and Ownership, addresses risks related to lack of buy-in among all relevant stakeholders, especially disengaged employers. Principle five, Manage Security & Risk, points to the need to identify risks to workers' security and who may be affected, and develop mitigation strategies to prevent data breaches. Principle six, Analyze Impact and Engagement, is driven by concerns about the integrity of data, credibility of results, and the possibility that workers' needs will remain unmet including through unintended consequences of the engagement.

In terms of data utilization, Principle seven, Inform Decisions & System Changes, reflects the harmful possibility that results are not communicated to build workers' knowledge and that data collection and analysis does not lead to systemic change for improved working conditions. Stemming from concerns about lack of transparency, Principle eight, Collaborate & Share Learnings promotes the public sharing of anonymized data in a way that is accessible, easy to comprehend, and actionable.

Further principles are also emerging from other quarters, with a greater emphasis on identifying specific potential harms and outcomes for workers. In early 2018, the Issara Institute published its *Updated Guide to Ethics & Human Rights in Anti-Human Trafficking*, citing the "new set of harms, risks, and threats to vulnerable people" that may be introduced by digital tools to collect data to address labor trafficking within global supply chains.[47] Issara's guide provides detailed checklists and case studies of good and poor practice. These case studies demonstrate ways in which technology and social media can expose migrant workers and trafficked persons to privacy risks, personal safety risks or other adverse consequences. They provide strategies to mitigate these risks, including: doing no harm and remaining compassionate but neutral;[48] prioritizing migrants' security through identifying and minimizing risks; obtaining informed consent, without coercion; and ensuring anonymity and confidentiality to the greatest extent possible.

Each of these sets of principles arose in the context of digital tools for collection of data from workers at scale within supply chains. Nevertheless, they respond to risks and problematic practices that may also arise in the other contexts discussed in this report.

In addition to industry-driven principles, a range of legislative frameworks are being enacted in response to concerns surrounding the potential harms to users of digital platforms. Most significantly, the new uniform EU General Data Protection Regulation is founded upon a fundamental right to personal data protection with significant legal and financial consequences for breaches, as discussed in Section IV.B below.[49]

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[46] See e.g. KnowTheChain, *2018 Information & Communications Technology: Benchmark Findings Report*, June 18, 2018 https://knowthechain.org/wp-content/plugins/ktc-benchmark/app/public/images/benchmark_reports/KTC-ICT-May2018-Final.pdf.

[47] Lisa Rende Taylor and Mark Latonero, *Updated Guide to Ethics & 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) 44-58 http://www.antislaverycommissioner.co.uk/media/1207/guide-to-ethics-and-human-rights-in-anti-human-trafficking.pdf.

[48] Having their roots in conflict sensitivity "Do No Harm" principles have since been adapted to the needs of the issues contained within digital security and data privacy: see e.g. Nicole Goddard, "Do No Harm and Peacebuilding: Five Lessons" (CDA Collaborative Learning Projects, October 2009) http://live-cdacollaborative.pantheonsite.io/wp-content/uploads/2016/02/Do-No-Harm-and-Peacebuilding-Five-Lessons.pdf; Tactical Technology Collective, *Holistic Security: A Strategy for Human Rights Defenders*, accessed July 5, 2018 https://holistic-security.tacticaltech.org/media/sections/chapterpdfs/original/HS_Complete_HiRes.pdf.

[49] European Commission, Joint Statement On the Final Adoption of the New EU Rules for Personal Data Protection (Brussels, April 14, 2016) http://europa.eu/rapid/press-release_STATEMENT-16-1403_en.htm. Recognising the harm that can result from disclosure of personal data, the GDPR makes clear that a wide range of identifiers can be "personal data" including a name, an identification number, location data, an online identifier or one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.

Examples of digital tools that enable businesses to engage with migrant workers in their supply chain:

Company IQ

MicroBenefits, United States/China

Launched 2011

Company IQ is designed to allow businesses to improve worker motivation and productivity. The tool seeks to address environmental health and safety, reduce turnover, support employees' digital learning and engage employees. Its worker voice tool allows businesses to gather data from workers via pulse surveys, enabling workers to report issues, and anonymously or publicly submit feedback on specific topics and issues. This enables businesses to respond to workers quickly through feedback loops and aggregate and understand how worker perceptions and preferences change over time. The product also includes training for management and workers on how to use grievance and feedback channels.

Engage, Enhance, Enable

&Wider, Amsterdam and Cape Town

Launched 2014

&Wider provides anonymous worker input to various stakeholders along with support to build the capacity of employers, buyers, and auditors to use the results to improve workplace and sourcing practices. Its clients include audit platforms, certification systems, big brand buyers, and suppliers. Active across Africa, Asia, Europe, and Latin America, &Wider designs indicators and surveys for clients and provides three key worker engagement tools, drawing on expertise in methodologies for collecting data from vulnerable populations and establishing trust. The Engage tool uses mobile surveys in the worker's language that are designed to be simple and non-stigmatized. These are accompanied by an extensive client induction process focused on building trust, candor, and high response rates, as well as a feedback process for all stakeholders, including workers.

Its Enhance tool uses surveys to gather productivity and commercially relevant insights from workers. With the employer as primary audience, &Wider uses this tool to encourage buyer/supplier buy-in to its Engage platform. The Enable tool offers an ongoing bidirectional communication channel for workers and management including employer notifications about changes and opportunities, and worker reporting of incidents, suggestions, feedback, and complaints (with an option for anonymity).

GeoPoll

Mobile Accord, United States and Kenya

Launched 2011

GeoPoll administers multi-modal surveys to obtain information from customers in 40 or more countries where data has traditionally been difficult to obtain in Africa, Asia, and the Middle East. The platform sends surveys through SMS or IVR, which are free for the user, do not require internet connectivity, and include a small incentive upon completion. Aggregated data are displayed on an interactive dashboard that is automatically updated as new data comes in. Identifying information is not shared with partners.

Although mainly focused on income-generating private-sector work, GeoPoll also conducts surveys to support partners such as USAID, the World Food Programme, other UN agencies, and the Gates Foundation. In 2016, it conducted pilot surveys with mining and fishing communities across the Democratic Republic of the Congo, Ghana, Kenya, and Tanzania to gauge workers' willingness to report labor violations in their supply chains.[50]

IM@Sea

ILRF and partners, Thailand

18-month pilot between 2016 and 2018

The IM@Sea pilot aimed to advance a worker-driven approach to corporate human rights due diligence in the seafood industry. The project sought to achieve representation of migrant workers in the Thai fishing through worker connectivity while at sea, improved forced labour risk assessment and verfication of workplace compliance, and the development of a worker-driven grievance mechanism. A package of data collection technologies was designed to provide a cost-effective way to assess forced labor risk, by combining worker reporting tools and electronic video monitoring.

At port, Burmese workers completed a comprehensive survey structured around operational indicators of forced labour and Thai regulatory violations. At sea, connecting to an onboard Wi-Fi network, the workers used smartphones to provide near real time information on working conditions, with data transmitted via satellite. Both the workers and participating vessel owners were interviewed by ILRF and its local partner, the Migrant Workers Rights Network. Vessel owners signed agreements that guaranteed workers' access to ILRF's tool, committed to addressing grievances, and agreed to not retaliate against participating workers.

[50] See also Samir Goswami and Max Richman, 'Leveraging Mobile Surveys to Monitor Labor Rights Violations in Emerging Markets,' *GeoPoll*, July 1, 2016 http://blog.geopoll.com/leveraging-mobile-surveys-to-monitor-labor-rights-violations-in-emerging-markets.

Worker data was cross-referenced against data from other sources to generate labor risk assessment reports for each fishing vessel.[51]

Inclusive Labour Monitoring System / Golden Dreams

Issara Institute, Thailand

Launched 2017

The Issara Institute's Inclusive Labour Monitoring system aims to combine community trust, business partnerships, smartphone technology and data analytics to empower workers across extended supply chains. Issara uses multiple channels to engage prospective Burmese, Cambodian, and Thai migrant workers and current migrant workers living in Thailand. This includes social media channels, hotlines, and its Golden Dreams Burmese-language Android app.

Users can sign-in to the Golden Dreams app through Facebook or by creating a userID and password. Functions include allowing users to exchange views and opinions about employers, recruiters, and service providers via its rate and review platform; access lists of employers and recruitment agencies; and review polling of migrant workers' opinions. The app also gives migrants the ability to share a problem or seek immediate assistance from the Issara team, 24 hours a day, through the free phone helpline or private messaging through Facebook, Line or Viber. Issara has reached over 100,000 migrant workers through its Inclusive Labour Monitoring System and each month receives on average of 2000+ calls and messages through the hotline and social media/messaging apps, with over 100 calls and messages on some days.

Issara uses its data analytics, along with information obtained through field research, to inform its partner businesses and suppliers about labor and recruitment conditions across their supply chains or product lines.

Laborlink

ELEVATE (formerly Good World Solutions), United States

Launched 2010

Laborlink enables workers to use their mobile phone to answer multiple-choice surveys about their working conditions, usually in their local language. Appropriate mobile technologies are selected based on local factors of development, connectivity, literacy, smartphone penetration, and factory and worker preference. Laborlink has generally preferred voice-based surveys (IVR) because it does not require a smartphone or literacy and is cost-free to workers, though it is beginning to offer data-based smartphone options such as Facebook Messenger or weblink alongside IVR (e.g., in China workers are also offered WeChat because smartphone penetration is higher). Workers' IVR feedback is anonymous, although demographic information such as gender, age or length of employment may be collected. To enhance uptake, Laborlink uses prizes and other incentives and takes localized worker outreach materials (such as instruction cards and posters) to factories. In order to achieve a representative sample (which can translate to participation rates of 20-60 percent), site trainers are deployed to launch surveys and train factory management and workers on use. Survey data has been elicited from over 1.7 million workers in apparel and electronics supply chains.[52]

Workers' responses are analyzed to allow companies to identify highest priority risks and inform factory specific intervention. Follow-up surveys may be conducted to measure improvements. After completing a survey, workers are provided with educational content, employer updates, rights and services announcements, training messages, and sometimes survey results.

Laborlink seeks to partner only with global brands that demonstrate a genuine commitment and leverage to make changes down their supply chain. It therefore limits survey questions to specific issues that the company is committed to addressing. Where global brands have more limited leverage, Laborlink focuses on business incentives (such as reducing high levels of worker turnover) to encourage factory-level engagement.

Two randomized controlled trials were conducted in apparel factories in Bangladesh by Tufts University to measure the impact of Laborlink's engagement. They indicate, among other things, that mobile surveys and educational messages can be effective at raising worker awareness and/or willingness to act on working conditions issues.[53]

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[51] See further International Labor Rights Forum, *Taking Stock*; Andy Shen, "Worker Voice Without Worker Agency Fails Seafood Workers," *International Labor Rights Forum*, May 4, 2018 https://laborrights.org/blog/201805/worker-voice-without-worker-agency-fails-seafood-workers.

[52] 1.5 million workers have also been reached through the Amader Kotha helpline in Bangladesh which uses Laborlink technology. Laborlink operates across 16 countries, and 30 different brands and industry partners. Its largest markets of operation are China, India and Bangladesh.

[53] Laura Babbitt and Drusilla Brown, "Information, organizational norms and salience in the use of workplace grievance procedures: A Bangladesh field experiment" (Tufts University, Labor Lab, May 2018) https://sites.tufts.edu/laborlab/files/2018/05/Salience-and-Information-in-Workplace-Communications-May-2018.pdf; Laura Babbitt and Drusilla Brown, "Perspective-taking, information processing and workplace verbal abuse: a Bangladesh factory manager field experiment" (Tufts University, Labor Lab, 18 April 2018) https://sites.tufts.edu/laborlab/files/2018/05/perspective-taking-and-information-processing-among-managers-in-Bangladesh-18-April-2018.pdf.

Labor Solutions

Workplace Options, Global

Launched 2012

Labor Solutions provides employers within supply chains with digital tools to communicate with workers. The tools were designed specifically for factory and farm workers and other minimum-wage employees in China, India, Indonesia, Malaysia, Mexico, Thailand, and Vietnam. Its clients include factories producing for Nike and Adidas, among others.

Its technology services include a helpline and grievance mechanism, called Labor Line, which allows workers to raise concerns to a third party and also receive counseling services. Another service, a worker wellbeing program called Micro-Coaching, allows workers to choose from a variety of topics and training programs (e.g., support for pregnancy, managing stress, financial literacy) and pushes out regular informative messages. Workers' questions tend to deepen as they build familiarity with the program over time. The tool is available via SMS or the Workplace Options app. It currently operates mainly in South East Asia, where there is up to a 30 percent response rate from workers.

A third service, WPOConnect, is a two-way communication platform, where workers can anonymously send questions and grievances to management through their phones. A dashboard allows employers and managers to respond to individual messages, distribute surveys, send broadcasts and analyze aggregated data. Worker engagement may be opt-in or by compulsory registration, depending on the country and employment context.

To be launched in late 2018, a new tool, WOVO, will feature the Micro-Coaching and WPOConnect tools in the one app, combining worker voice features with worker wellbeing, career advancement, and skills training.

Symphony

LaborVoices, United States

Launched 2016

LaborVoices collects sector-wide worker-generated data on issues such as wellbeing, health and safety, child labor, migrant status, and freedom of association in workplaces. Worker data is aggregated into social credit reports that are made available to multinational brands and suppliers on a subscription basis.

Worker-users are obtained through large community drives or marketing campaigns—as opposed to in-factory outreach—primarily through IVR, although SMS, Facebook messaging, and chatbots are also used. Workers do not provide their names but are allocated a unique ID and their phone number may be stored for follow-up purposes. Incentives for workers' participation include phone credit top-ups, prizes, and raffles.

LaborVoices' customers may also access a case management web-platform where issues are flagged and managed. Once factory managers seek to address certain issues, LaborVoices may then seek community feedback about whether their concerns have been appropriately resolved. Workers are also provided with access to information about the best employers in their region based on the feedback of other workers. The company has operated in 11 countries, predominantly in Bangladesh and Turkey in the apparel industry, as well as agriculture, electronics, and housewares.

Ulula

Ulula, United States and Canada

Launched 2013

Ulula's software involves multi-language tools for supply chain management, stakeholder engagement, and monitoring and evaluation. These are intended to help brands, suppliers, auditors, and governments manage human rights risks in their supply chains. Ulula runs worker engagement projects in 15 countries across Africa, Asia, and Latin America. The system can connect to over 100 countries.

Ulula uses different communication channels depending on context, including SMS, social media messenger apps, custom apps, and message apps. Its services include automated pulse surveys sent to elicit feedback from workers and community members. Businesses and other interested parties are offered customizable and visualizable analytics, and the possibility of integrating this data into their auditing processes and responsible sourcing programs.

Ulula has also introduced mobile-based grievance mechanisms in various countries such as Peru and Indonesia. The digital initiative is intended to allow community members to anonymously report issues, such as social and environmental grievances, via free SMS and IVR. Company staff view the grievance via a dashboard, and the community member receives updates on the status of their complaint and is asked for feedback on their satisfaction with the company response.

Worker Connect

Caravan Studios (Division of Techsoup) and Humanity United, with CH2M/Jacobs, United States

Launched 2017

Caravan Studios developed the Worker Connect smartphone app for construction workers in the Arab Gulf, in collaboration with engineering and construction firm CH2M (now Jacobs). The app is intended to allow workers to anonymously report issues about food; dignity and respect; recruitment and documents; getting paid; health and safety; the worksite; travelling to the worksite; where they live; and returning home. The data generated by the app is intended to be shared with worksite welfare supervisors, as well as those higher up in the supply chain, as a dashboard with information about hotspots of concern. In order to promote two-way communication, the tool enables welfare supervisors to post information and updates.

Workers using the app select their nationality, preferred language, and the project to which their employment is tied. This enables them to access information relevant to their circumstances, including the broader context of their project and its supply chain.

To encourage uptake and trust (particularly in the context of an anonymous app where no individual remedies for grievances are available), ambassadors promoted the app through face-to-face workshops in workers' languages. The developers worked closely with worker welfare staff at the worksite to encourage them to be responsive to workers using the tool. Focus groups with over 100 workers were conducted to validate initial designs, and the app has since been deployed on multiple infrastructure projects in the region.

III. TRENDS IN DIGITAL TOOLS THAT ENABLE MIGRANT WORKERS TO ENGAGE WITH EACH OTHER AND ACCESS JUSTICE

A. Platforms that enable workers to rate and review recruiters, employers, and other intermediaries

Several rating and review platforms have been developed by civil society organizations and trade unions to enable migrant workers to share information with each other about their experiences with specific recruiters, employers, and other migration intermediaries.[54] These platforms seek to empower workers to make more informed decisions. They may ultimately create a more transparent marketplace that incentivizes good practices and provides a commercial advantage to responsible recruiters and employers over their competitors. With some similarities to TripAdvisor or Yelp, these platforms generally ask workers a number of questions about the recruiter or employer, permitting reviewers to provide a check box or binary answer. Some allow reviewers to provide a rating (e.g., 1-5 stars), or to contribute detailed reviews by open text boxes.

These platforms have emerged in response to migrant workers' inability to access first-hand information from other migrant workers that would have helped them avoid an unscrupulous employer or recruiter, or seek out those with a reputation for fair treatment. The platforms seek to circumvent a range of structural barriers that prevent prospective and current migrants from obtaining this information through other means. First, information on non-compliant recruiters and employers is generally unavailable from governments or not sufficiently detailed to meet migrants' decision-making needs. Governments rarely publish data on worker complaints they receive or enforcement actions taken in relation to specific recruiters and employers.[55] Instead, information disseminated by government is often confined to basic corporate compliance. Data published by governments is also rarely updated, making it less reliable.[56] Indeed, according to NGOs and trafficking survivors interviewed in one study, Filipino migrant workers were more inclined to trust the opinions of those posting on dedicated job forum websites and Facebook than government reports.[57]

Second, migrant workers are often isolated from each other in various ways that make it difficult or impossible to share information. Where employers hire migrant workers from different home countries there are rarely opportunities for workers to share information with other current or prospective workers across national borders. Indeed, even

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[54] Similar technologies are also being developed for crowd-workers in the platform-based economy, such as Fair Crowd Work, which collects information from workers and unions (via surveys) to offer ratings of pay and working conditions on different online labour platforms and Turkopticon which allows Amazon Mechanical Turk workers to rate individual employers: see "Fair Crowd Work," accessed July 5, 2018, http://faircrowd.work/; "Turkopticon," accessed July 5, 2018 https://turkopticon.info/.

[55] Rachel Micah-Jones (Centro de los Derechos del Migrante, Inc.) in discussion with the authors, July 2018.

[56] Nova Fransisca Silitonga (Tifa Foundation) in discussion with the authors, July 2018.

[57] Mark Latonero, Bronwyn Wex and Meredith Dank with Sasha Poucki, *Technology and Labor Trafficking in a Network Society: General Overview, Emerging Innovations and Philippines Case Study*, USC Annenberg Center on Communication Leadership & Policy, University of Southern California, February 2015, 26 https://communicationleadership.usc.edu/files/2015/10/USC_Tech-and-Labor-Trafficking_Feb2015.pdf.

within one home country, workers in different villages or towns can lack means for sharing information about fraudulent recruiters who move between locations.[58] Nor are there strong channels for migrant workers in a country of employment to share information with prospective migrants in their home country. These barriers are exacerbated by the absence of unionization among migrant workers, sometimes because of restricted freedom of association in migrants' countries of employment.

In contexts where current, former, and prospective migrant workers are able to share information, for example by individuals in the same village speaking to each other, other barriers may prevent them from doing so. For example, they may be uncomfortable criticizing someone in their community, or may fear retribution. An online forum offers the potential to share information anonymously.

In addition to informing migrants' decisions, these platforms may have other benefits. They may provide migrant workers with a sense of community and an outlet for expressing their views. One study notes that the process of completing a review can be an empowering experience for migrant worker women who are not normally asked about their experiences, and that initiating conversations for the purpose of encouraging reviews can be an effective organizing tool.[59] Platform hosts may also provide migrant workers who report misconduct with further individual benefits such as referrals to support services to lodge complaints or claims. Some platforms are intended to enable the use of information for other purposes, such as alerting advocates, employers or businesses at the head of global supply chains about problematic recruiters or employers and flagging enforcement needs, or to inform campaigns and advocacy efforts.

Conditions for effectiveness of rate and review platforms

Value and reliability of reviews

A number of factors may undermine the value of information posted by reviewers. Since the subjectivity of reviews and personal circumstances and concerns of each reviewer are frequently invisible, reviews (especially those limited to numeric or star ratings) may be interpreted differently by users. There is no way for a user to determine how much weight to attribute to any particular review, and there is a risk of undue reliance on a small number of positive reviews that may mask problems, with potentially dangerous consequences.[60] Even negative reviews may understate the severity of a problem or mask more serious issues that the reviewer declined to report.[61]

In seeking to establish the reliability of reviews, users may look for a critical mass of similar reports in relation to a particular entity. This may demand a large number of reviews, which requires broad uptake and participation by reviewers. However, large numbers of corroborative reviews may be less important when the information provided is specific or a small number of detailed reviews demonstrate a clear pattern (e.g., a caution not to drink the water on a particular site).[62] Users may also be more willing to rely on reviews for certain purposes over others. For example, one platform has found that users will especially rely on reviews concerning fraud perpetrated by a recruiter,[63] possibly because the information is specific with less room for subjectivity.

As more of these platforms are developed and others mature, further research is required with communities of current and prospective migrant workers on how they perceive and use information provided by other workers.

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[58] Rachel Micah-Jones (Centro de los Derechos del Migrante, Inc.) in discussion with the authors, July 2018.

[59] Jones and Nuriyati, *Increasing Transparency in International Recruitment: An Evaluation of "PantauPJTKI" (Recruitment Watch)* 4. See also Katharine Jones, *Ten International Lessons for Developers of Recruitment Review Websites: Increasing Transparency in Recruitment and Empowering Migrant Workers*, Centre for Trust Peace & Social Relations, Coventry University, [n/d], on file with the authors.

[60] Jones and Nuriyati, *Increasing Transparency in International Recruitment: An Evaluation of "PantauPJTKI" (Recruitment Watch)* 5.

[61] Dr Lisa Rende-Taylor (Issara Institute) in discussion with the authors, July 2018.

[62] Rachel Micah-Jones (Centro de los Derechos del Migrante, Inc.) in discussion with the authors, July 2018.

[63] Ibid.

Security for reviewers

In order to post reviews on a site, workers need to feel safe that honest reviews of employers and recruiters will not compromise their job prospects, immigration status, personal safety or community relationships. This may require anonymity, or even a minimum number of reviews to overcome risks of reviews being traced back to individual workers despite their anonymity. Anonymity may also be important in addressing a cultural reluctance to publicly admit mistreatment or criticize others. At least one platform found that workers who disclosed significant rights violations also provided a "good" (4-star) rating of the recruiter whose license was subsequently revoked by the government with its director and staff under investigation for human trafficking offenses.[64]

IN ORDER TO POST REVIEWS ON A SITE, WORKERS NEED TO FEEL SAFE THAT HONEST REVIEWS OF EMPLOYERS AND RECRUITERS WILL NOT COMPROMISE THEIR JOB PROSPECTS, IMMIGRATION STATUS, PERSONAL SAFETY OR COMMUNITY RELATIONSHIPS.

This raises broader questions in relation to the safeguards available for migrant workers and platform hosts to protect user data and protect against retaliation or potential liability for defamation (see Section IV.C). It also raises challenges for platform hosts in determining whether to integrate their platform with other platforms (e.g., Facebook) that may enhance uptake and effective engagement through social networks, but may also jeopardize the security of reviewers (see Section IV.B). Further issues arise in relation to the form of consent required by reviewers to post their review, and how this is obtained (see Section IV.B).

There may be a tension between reviewers' desire for greater anonymity when posting reviews, and readers' interest in knowing more about the reviewer (such as their connections with other users) in order to evaluate the reliability, accuracy, and relevance of the review. Anonymity also exacerbates the difficulty of ensuring that reviews are accurate and genuine (as distinguished from "fake reviews" written by recruiters or employers, or their competitors). To detect "fake reviews" left by anonymous users, it has been suggested that hosts could check for multiple entries from the same IP address or provide an opportunity for others to flag suspicious reviews.[65]

Uptake by workers at the right moment and worker agency to choose recruiters/employers

Even if there is a critical mass of genuine, trustworthy reviews, platform hosts confront the further challenge of ensuring that the target audience knows about their tool, trusts the reviews it contains, and chooses to use the tool at the relevant decision-making moment.[66] This can be very difficult if fraudulent recruiters move between isolated communities where the tool has not been promoted or little is known about it. Also, where recruiters access new workers through social or family networks, it may be unrealistic to expect workers to trust the online platform over recommendations of family or friends.

There remain larger questions about the conditions under which these rating platforms are likely to empower migrant workers and provide them with greater choice and capacity to avoid non-compliant recruiters and employers. Most fundamentally, the worker-as-consumer model assumes that, armed with accurate information, workers have a choice of the recruitment agency they use and where they work, which is not always the case. Even after being better informed about the risks related to particular employers or industries, it is possible that workers in more restricted employment or recruitment markets have few options other than to accept exploitative work. In many countries of employment, migrant workers' visas are tied to a specific employer and their visa is not portable to another employer. Some migrants relying on local brokers to connect them with a recruitment agency are unable to choose another recruitment agency.

[64] Jones and Nuriyati, *Increasing Transparency in International Recruitment: An Evaluation of "PantauPJTKI" (Recruitment Watch)* 24.
[65] Ibid 5-6.
[66] Developers of civic technology platforms that strengthen public participation in governance have learned that building a new website or service does not guarantee that an audience (let alone the particular target audience in mind) will turn up to use it: "Build It They Won't Come," Civic Patterns, accessed July 5, 2018, http://civicpatterns.org/patterns/build-it-they-wont-come/.

Funding and sustainability

In general, these platforms require a long-term commitment to promote uptake among migrant workers and establish a critical mass of reviews and ongoing engagement. Often, prior to its launch, a new platform will be populated with an initial set of reviews collected through extensive offline engagement with migrant workers.[67] Platform hosts invest substantial resources in monitoring reviews on an ongoing basis to ensure their bona fides, and some may dedicate resources to uploading content provided offline or via phone.

Platform hosts confront significant challenges in relation to funding and revenue models because of the substantial initial investment required, and the fact that seed funding will not cover the deep resource investment required beyond the start-up phase. This raises questions about the appropriateness of different potential longer-term funding sources, such as user subscriptions, third party advertising or subscriptions by employers or businesses interested in knowing about recruiters in their industry. These and other funding challenges are explored in more detail in Section IV.E below.

Examples of platforms that enable workers to rate and review recruiters, employers, and other intermediaries:

Contratados

Centro de los Derechos del Migrante (CDM), United States / Mexico

Launched 2014

Co-designed with migrant workers, Contratados is intended to increase transparency in the recruitment system and empower migrant workers by enabling them to share and access information about recruiters, employers, and agencies. This facilitates job verification as well as the exchange of qualitative information about recruiters and employers. Workers who report abuses or wish to verify the bona fides of a recruiter or employer may also seek assistance from CDM, including for advice, referrals or legal representation.

Configured in Spanish and English, Contratados provides a platform for workers to anonymously post and read reviews of recruiters or employers online. (Previously, workers could also submit reviews via text or phone. However, these reviews were not integrated into the publicly accessible part of the database due to defamation liability concerns.) Questions are short and simple and require a "yes/no" or multiple-choice response. Reviews are searchable and users can also register to receive alerts and updates by email or text. Visitors can find the Contratados site by searching the name of the recruiter or employer online (which is possible because Contratados is a website, rather than an app that must be downloaded prior to use).

In addition to its review function, Contratados contains a repository of Know Your Rights materials. Rather than videos (which CDM found were difficult to access by workers with limited or no data), CDM developed downloadable small-sized comics and radio dramas. It also contains a news section that is regularly updated with blog posts that are shared widely across social media networks and direct traffic to the Contratados site. CDM also shares reviews, surveys, and other materials through social media.

CDM has taken steps to protect its own and its users' security. No email address, phone number or other identifying information is required to write a review (although users can separately subscribe for content such as location-based alerts and blog updates). If users do add their contact details in a post, these are removed. IP addresses and other identifying information are also flushed by both CDM and their server hosts after initial verification, to ensure users' safety if CDM is hacked or subpoenaed. Anonymity of reviews has created other issues such as spam content that the organization has needed to address. See also Section IV.C. below on CDM's efforts to limit its legal liability for review content.

[67] Email exchange with worker organisation representative, July 2018; Jones and Nuriyati, *Increasing Transparency in International Recruitment: An Evaluation of "PantauPJTKI" (Recruitment Watch)*, 9-10.

Hospo Voice

United Voice, Australia

Launched 2018

Hospo Voice is a digital union for hospitality workers in Victoria, Australia, developed by the trade union United Voice. Its Rate My Boss tool, launched in December 2017, enables workers to rate their employers. Users can search for prospective employers by rating or location, and see aggregate ratings for both "Respect for staff" and "Correct pay." Payment of modest membership fees allows workers to access a range of further digital tools including PayChecker (to find out what they should be paid), Record My Hours (to track and prove hours they have worked), Harassment Diary (to record experiences of harassment), and Hospo Help (a forum to get advice on their rights). This new membership model, launched in May 2018, combines access to digital tools along with worker-led campaigns and protests to name and shame employers that mistreat staff. The new union is led by neighborhood-based networks of young hospitality activists and leaders, who campaign offline and online against entrenched wage theft and sexual harassment in their area.

HourVoice

Donald Chartier, United States

Launched 2016

HourVoice is a tool for low waged, hourly workers to track their hours, estimate gross pay, and rate their employers. Workers rate their employers on six key metrics: hours worked per week, hourly wage, scheduling, respect, advancement, and safety. After workers provide these ratings, they can then access user-generated ratings of similar employers. Anonymized data analytics are then provided to worker advocates such as worker centers (without fee), and labor unions, plaintiff attorneys, and regulators (as a paid service). The tool is currently in stasis.

Inclusive Labour Monitoring System / Golden Dreams

Issara Institute, Thailand

Launched 2017

As noted in Section II, Golden Dreams includes a function that allows users to exchange views and opinions about employers, recruiters, and service providers.

Pantau PJTKI (Recruitment Watch)

Infest, Tifa Foundation & PSD-BM, Indonesia

Launched 2014

Pantau PJTKI (Recruitment Watch) is a platform for Indonesian migrant workers, particularly women domestic workers, to rate Indonesian recruitment agencies. The platform's objectives are to: (1) facilitate access to user-generated reviews about the quality of the services offered by recruitment agencies to enable migrants to choose which recruiter they use; (2) incentivize recruiters to improve their performance; and (3) enable civil society to engage in more informed advocacy leading to better policies and monitoring of the recruitment industry at national and local levels.

The platform has been promoted online via social media, such as Facebook and Twitter, and has been indexed by Google and other major search engines. As well as allowing for online reviews by migrant workers, reviews have also been collected offline by Infest and partner civil society organizations that visit migrant women in their communities and countries of destination. These reviews are then uploaded into Pantau PJTKI by a data entry officer and screened prior to publication for potentially libelous statements. Infest estimates it also gets 25 phone calls each month from migrant workers seeking information on recruitment agencies or the recruitment and migration process.

Recruitment agencies have sometimes engaged with the platform by updating basic information about their agency and the status of their license, uploading registration certificates, or by responding to worker complaints. Some have also threatened defamation proceedings and demanded the removal of certain reviews.

The database has been used several times to support NGO and civil society advocacy efforts against unscrupulous recruiters. Government agencies have relied on information on the platform to assist in human trafficking investigations, though Infest has noted that the platform could be more impactful if linked to government-level interventions such as licensing regimes.

Philippines Overseas Employment Administration (POEA), Department of Labour and Employment Philippines Established 2015	In 2015, the POEA mandated that licensed private employment agencies that recruit domestic workers must maintain an active Facebook page for their business, and must accept requests from migrant workers to provide them with an additional avenue to make contact or direct complaints.[68] According to one commentator, these Facebook pages provide platforms for domestic workers to share information to overcome information asymmetries in the market.[69] Since users access the platform via Facebook, there appears to be no prospect for anonymity.
Recruitment Advisor International Trade Union Confederation (ITUC), with support from the ILO Fair Recruitment Initiative Launched 2018	Recruitment Advisor, developed by ITUC with support from the ILO Fair Recruitment Initiative, allows migrant workers to rate recruitment agencies, comment on their experiences, and learn about their rights. The web-based platform lists thousands of recruitment agencies across Hong Kong, Indonesia, Malaysia, Nepal, the Philippines, Qatar, Saudi Arabia, Singapore, and elsewhere. Initially available in English, Indonesian, Nepali and Tagalog, it will be further developed in more languages. The platform is promoted to workers by a network of trade unions and civil society organizations in all target countries, that also initially engaged directly with migrant workers to collect offline reviews to be uploaded. Lists of licensed agencies were provided by participating governments. As of July 2018, Recruitment Advisor has 6,994 users and contains 3,024 reviews.

B. Digital tools that facilitate workers' access to justice

Most migrant workers who encounter exploitative recruitment or labor conditions are unable to access remedies. A number of the barriers that impede migrant workers from seeking redress may be amenable to digital intervention. For instance, many migrants are unable to meet evidentiary requirements to succeed in a wage claim or recover funds paid to a fraudulent recruiter because they lack records of their hours worked and wages received, or they possess fraudulent or forged documents. Many also face challenges in applying appropriate wage rates to calculate the quantum of underpayment. Private legal assistance is costly and there is insufficient legal aid. Migrant workers also often lack information about their rights and how to access remedial processes and legal or paralegal services. For many, remedial forums are physically inaccessible because they are centralized in capital cities, far from workers' homes or worksites.[70]

Outside of the migrant worker context, myriad initiatives have been developed that support litigation, investigation, and claims processes. In addition to platforms that support legal professionals, an array of digital tools have been developed by civil society, government, and the private sector to enable litigants to initiate legal claims.[71] A number of governments have also launched online civil complaint mechanisms,

[68] Memorandum Circular No. 03 of 2015 cited in Beate Andrees, Alix Nasri and Peter Swiniarski, "Regulating Labour Recruitment To Prevent Human Trafficking And To Foster Fair Migration: Models, Challenges And Opportunities," ILO Working Paper, June 24, 2015, 67 http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---declaration/documents/publication/wcms_377813.pdf.

[69] Ray Jureidini, "Ways Forward In Recruitment of Low-Skilled Migrant Workers In the Asia-Arab States Corridor," ILO White Paper, September 6, 2016, 33 http://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/documents/publication/wcms_519913.pdf.

[70] Bassina Farbenblum, Eleanor Taylor-Nicholson and Sarah H Paoletti, *Migrant Workers' Access to Justice at Home: Indonesia*, Open Society Foundations, 2013, 31-2 https://www.opensocietyfoundations.org/sites/default/files/migrant-worker-justice-indonesia-20131015.pdf; Benjamin Harkins and Meri Åhlberg, *Access to Justice for Migrant Workers in South-East Asia*, ILO, July 28, 2017, 20 http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_565877.pdf.

[71] Samir Goswami (Samir Goswami LLC) in discussion with the authors, July 2018. See also Elinor R Jordan, "Point, Click, Green Card: Can Technology Close the Gap in Immigrant Access to Justice?," *Georgetown Immigration Law Review* 31 no. 2 (Winter 2017): 291-4 which discuss how software in the US context (e.g. LegalZoom, FileRight.com, VisaEase.com, Visanow.com, Clearpath Immigration, Citizenshipworks and Own the Dream) provide a range of interfaces to allow users to navigate complex immigration eligibility requirements and negotiate administrative processes.

simplifying complex processes by digitizing or automating document and evidence collation and submission.[72]

While recognizing the need for further research that explores the potential relevance and adaptability of some of these initiatives for migrant workers, we focus here on technology initiatives that specifically support migrant workers to make claims against recruiters and employers and obtain financial remedies. We consider four functions in particular: documentation and evidence-gathering; wage calculation; referral to legal services or other support; and facilitation of transnational litigation. The examples of initiatives described below contain, in various combinations, one or more of these functions.

Documentation and evidence-gathering

A number of digital tools are intended to generate complete, reliable reports of working hours. They may combine worker-entered data with a location tracking function on a worker's mobile phone that confirms a worker's presence at a worksite over a particular time period. Some tools use geo-fencing technology[73] to track the location of the device in a way that is more energy efficient than through GPS alone. Geo-fencing also has the benefit of allowing the user to either proactively turn on the location setting on their device when they wish to make a record, or to pre-program the setting so it automatically recognizes when the device is in a pre-defined boundary (such as a worksite), relying on Wi-Fi and cellular data.

Uptake by workers and reliability of data

An automated function may relieve workers of the need to adopt consistent and routine record-keeping habits. However, in order for the platform to be effective, workers must be aware of the platform and incentivized to keep records of their hours from the outset of their work, rather than once a problem has arisen.[74] It may be challenging to achieve uptake at the beginning of workers' employment, when many wish to avoid the pessimistic view that a new employer will withhold wages or entitlements.[75]

Where a worker does engage in early and consistent use, these tools aim to establish verifiable evidence of hours worked that is difficult for employers to contest. These platforms may, however, be susceptible to manipulation by the user, for instance where a worker gives the device to another worker to create a false record of his/her presence at a worksite. This could potentially be addressed by requiring biometric data such as a thumbprint.

Because they require use of a smartphone these platforms will only be accessible to certain workers under particular conditions. Indeed, there may be a danger that uptake of digital record-keeping initiatives will increase the evidentiary burden on workers by creating an expectation that all workers should engage in record-keeping, placing the burden to workers to explain why they did not record their hours worked, whether through a digital device or otherwise.[76]

Data storage and security

Collection and storage of data on a worker's hours and location creates substantial privacy and security risks to workers, raising questions about how to protect worker data from interception or surveillance, and ensure the data collected does not trigger employer/recruiter retaliation or discrimination, coercion, or state immigration enforcement in the case of unauthorized work.[77] These risks may be affected by where the data is stored. On the one hand, storage of data locally on the user's device reduces access to the data by third parties but places the burden on the worker to ensure data security. On the other hand, storage of data on the platform host's site shifts the burden of data protection but may leave

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[72] For example, in 2016, Pakistan's Ministry of Overseas Pakistanis and Human Resource Development announced the establishment of an online complaint management system that allows migrant workers to submit legal complaints related to recruitment or employment: see e.g. International Labour Organization, "A Better Way for Pakistani Migrant Workers To Combat Exploitation," February 10, 2016 http://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_450057/lang--en/index.htm; see also Farbenblum and Nolan, 39. In February 2015, the government of India similarly launched an online consular grievances management system, MADAD, to assist Indians abroad seeking consular assistance: Ministry of External Affairs, Government of India, "Consular, Passport and Visa Division: Consular Complaints and Grievances," last modified May 31, 2016 http://www.mea.gov.in/consular-complaints-and-grievances.htm.

[73] Geo-fencing is a feature used to define geographical boundaries of interest through global positioning (GPS) or radio frequency identification (RFID) and the target users' proximity to these boundaries. The application can be programmed to record when a device enters or exits the pre-defined boundary.

[74] Lynn Dombrowski, Adriana Alvarado Garcia and Jessica Despard, "Low-Wage Precarious Workers' Sociotechnical Practices Working Towards Addressing Wage Theft," CHI '17 Proceedings of the 2017 Conference on Human Factors in Computing Systems, Denver, Colorado, USA, May 6-11, 2017: 4588 https://doi.org/10.1145/3025453.3025633.

[75] Maria Figueroa (Cornell University) in discussion with the authors, July 2018.

[76] Julia Ticona, "New Apps Like Jornalero Aim to Protect Low-Income Workers. Here's How They Could Backfire," *Slate*, March, 21 2016, http://www.slate.com/blogs/future_tense/2016/03/21/new_apps_like_jornalero_aim_to_protect_low_income_workers_here_s_how_they.html.

[77] See Morgan Meaker, "Europe is using smartphone data as a weapon to deport refugees," *Wired*, July 2 2018 https://www.wired.co.uk/article/europe-immigration-refugees-smartphone-metadata-deportations; Dombrowski et al, "Low-Wage Precarious Workers' Sociotechnical Practices Working Towards Addressing Wage Theft", 4594 citing Neil M Richard, "The Dangers of Surveillance," *Harvard Law Review* 126 no. 7 (May 2013): 1934 https://www.jstor.org/stable/23415062.

the data more vulnerable to interception. It has the advantage of enabling the host organization to use the aggregate data to identify trends and inform advocacy, but the possibility of third party use of the data may discourage workers from using the platform due to security concerns.

Wage calculation

A number of platforms enable migrant and other low-waged workers to calculate the wages they are owed. These may involve complex algorithms that take into account when hours were worked and the appropriate statutory or contractual base rate of pay in the worker's industry or workplace including overtime rates and other variations. These tools can significantly expand migrant workers' access to justice. Although migrant workers' direct use of the tool assumes a level of digital and other literacy that many do not possess, the tools enable paralegals and legal service providers to assist a greater number of clients. Wage calculation tools can reduce the level of expertise that a paralegal would need to navigate complex regulatory instruments detailing wage rates. They can also substantially reduce the time and complex calculations that would otherwise be required to determine the total amount of wages that each client was underpaid, especially where the client has digitally recorded their hours worked. Future platforms could go a step further and arm workers with a template court claim document, automatically populated with wages calculated by the platform based on data input by the workers. This could further reduce resources and expertise required by the paralegal or legal service provider, increasing their capacity to assist a greater number of workers.

Workers can use their knowledge of the amount they are owed to confront or negotiate directly with the employer, most likely with support from an advocate, legal advisor or worker organizer. Groups of workers may in some situations use this knowledge as a basis for collective engagement with the employer or other stakeholders.

Because wage structures vary widely, wage calculation platforms may either need to be confined to individual jurisdictions and industries, or significant resources must be invested to replicate the platform for each geographic or industrial context.[78]

Preparation of claim documents and referral to legal assistance for filing claims

Recognizing that migrant workers can rarely submit claims through formal justice mechanisms without assistance, several platforms connect migrant workers with legal advocates and other service providers who can give them advice and help them file a claim. To ensure that legal or other support is available to workers referred by these digital initiatives, consideration must be given to the relevant organization's capacity to deliver services and possibly the need for additional resourcing. However, it may be difficult precisely to predict the extent of expanded client needs which may be generated by the platform. The organization may also be unable to provide services to certain groups of workers who are referred through the platform if the organization only caters to clients within a particular region but the platform is open to users anywhere, leaving those workers frustrated with unmet expectations of assistance.[79]

Legal service provider databases that facilitate local and transnational claims

In addition to platforms that enable workers to gather evidence and calculate claims, new platforms are emerging to address the barriers that hamper legal service providers' ability to bring claims on behalf of migrant workers, including elements that cross national borders.

Lawyers are mobilizing technology to create online databases that provide data analytics on cases reported and claims being handled by platform hosts. One organization has developed a shared database between lawyers and support services collaborating on claims across workers' home country and country of employment, including a shared repository of evidence and communication channels.[80] In time, this may also be used to facilitate litigation against a lead firm by placing that company on notice of rights violations relating to a worker's recruitment or employment for an entity in its supply chain.

Overarching challenges

The availability of these platforms is often confined to workers with a smartphone who have a degree of technological literacy,

[78] Maria Figueroa (Cornell University) in discussion with the authors, July 2018.
[79] Ibid.
[80] "RADAR Program," ProDESC, accessed July 5, 2018 http://www.prodesc.org.mx/index.php/en-us/2014-04-21-22-17-31/radar-program.

which may make the platforms unsuitable for certain contexts or inaccessible to certain groups of workers who still require substantial in-person legal assistance to pursue remedies.

There also remain substantial barriers to access to justice that may be difficult to address with digital tools for workers. These include protracted, complicated and/or corrupt legal processes to obtain remedies, poor government labor enforcement functions due to under-resourcing or lack of political will, recruiters' and employers' evasion of accountability mechanisms (including through bankruptcy, disappearance or disregard for enforcement orders), unclear statutory responsibilities and gaps in legal protection (such as the exclusion of domestic migrant workers or seasonal workers from the operation of labor law protections), discriminatory and dismissive attitudes by institutional actors, temporariness of stay in states of employment, and workers' fears of job loss, immigration consequences or employer retaliation. Though some of these may be better suited to non-technological interventions and others demand broader institutional reforms, there may be a role for technology in addressing some structural barriers. For example, as a result of strategic litigation by a transnational NGO, the Hong Kong High Court recently confirmed that migrant workers may appear remotely by video in the Labour Tribunal and the Small Claims Tribunal, opening the door to migrant workers bringing wage claims once they have returned home.[81]

Examples of tools that facilitate migrant workers' access to justice:[82]

DOL Timesheet app Department of Labor, United States Launched 2011	DOL Timesheet assists workers to record their hours and calculate wages owed, including overtime rates, although it does not calculate tips, commissions, bonuses, deductions, holiday pay, weekend pay or shift differentials. It is available in English and Spanish for iPhones.
HourVoice Donald Chartier, United States Launched 2016	HourVoice, discussed above, allows workers to track their hours and estimate gross earnings, and provides referrals to worker centers. In order to avoid the barriers to individual-based complaint-making, HourVoice is exploring the development of data analytics based on information entered by workers to assist government, unions, and worker centers to combat wage theft.
Impowerus Katelyn Ringrose, United States Launched 2018	Impowerus aims to connect community organizations and legal aid clinics working with youth immigrant populations with law firms providing pro bono legal services. It also seeks to build capacity in law firms by lowering the costs involved in finding and scheduling clients and conducting pro bono work.

[81] *Domingo v Shuen* [2018] HKCFI 1642. For a summary of the litigation, facilitated by Justice Without Borders, see Yee Suan Poon, "Victory for Migrant Workers At Hong Kong High Court: Video Link at Lower Costs Allow Workers to Pursue Claims from Home," *Justice Without Borders*, July 31, 2018 http://www.forjusticewithoutborders.org/victory-migrant-workers-video-link/.

[82] The now retired WorkerReport, launched in 2016, was designed to help low waged workers to document wage theft and health and safety violations. It was discontinued likely due to low adoption, which may have stemmed from the non-uniform nature of the enforcement regime from city to city in the US, having to rely on understaffed, under-resourced intermediaries, slow feedback loops between the reporting of an issue and the resolution of it, and workers' lack of knowledge of their rights: Dr Carmen Rojas (The Workers Lab) in discussion with the authors, July 2018; see also Carmen Rojas, "Innovating the Labor Movement," *The Workers Lab Library,* January 23, 2017 https://medium.com/the-workers-lab-library/innovating-the-labor-movement-f83ea6a603cf.

Inclusive Labour Monitoring System / Golden Dreams

Issara Institute, Thailand

Launched 2017

The ILMS, discussed above, enables Burmese, Cambodian, and Thai migrant workers to share a problem or seek assistance from Issara via private messaging or helpline. The Golden Dreams app provides Burmese jobseekers and migrants with information on legal and other service providers at source and destination countries, as well as the ability to rate and review services they have received.

Jornaler@

NDLON, NICE, AFL-CIO, IUPAT, and the Worker Institute at Cornell University, United States

Launched 2016

Jornaler@, and its successor Reporter NICE, seek to assist day laborers working in the New York area to document and report wage theft. The app allows workers to record their hours, wages, and work location, as well as employer and worksite information (using a camera to document employer, car model, license plate number). It aggregates this data for workers into weekly and annual wages, and also provides monthly average wage figures for jobs in the local area. Through a separate report function, the platform helps workers gather further information to file a wage theft complaint, and sends the documentation to a worker center for follow-up. More than 110 workers were assisted in downloading the Jornaler@ app, although only 10 actually used it for some time. It is currently under review to improve adoption.

MRVRS / Hamsa System

Migrant Forum in Asia (MFA), HURIDOCS

Launched 2004, with further developments in 2015 and 2017

Migrants Rights Violation Reporting System aims to record, store, and manage information about human rights and labor rights violations against migrant workers and members of their families. It is an internal database that facilitates the generation of statistics and consolidated reports for advocacy. MFA has more recently partnered with HURIDOCS to create a website (launched in 2015) and smartphone app (launched in 2017), MRVRS/Hamsa, to encode cases and generate real-time statistics along with analysis tools. MRVRS/Hamsa contains both primary data (cases submitted by MFA's partners) and secondary data (news, reports, etc).

My Labor Matters

Verite Southeast Asia (VSEA), Center for Migrant Advocacy (CMA), Filipino Migrants Center, Energetic Green / TALL

Launched 2015

My Labor Matters is a multi-channel communication platform for workers and jobseekers in the Philippine-Japan migration corridor. Integrated with its Facebook page (https://www.facebook.com), My Labor Matters aims to improve the safety and impact of the vibrant information-sharing and support that is already taking place among overseas Filipino workers online. It allows workers to report grievances or concerns via Facebook messenger, phone call or text message. Verite and its partners then track grievances through an internal database. The platform also provides up-to-date and relevant information to workers and jobseekers and a venue for sharing information and narratives about their experiences. The platform is currently in a transitional stage, as Verite and partners consider scope for expansion to further jurisdictions.

Outflank

Jesse Sudich, Australia

Released 2018

Outflank Pay Tracker enables workers to record their hours and calculate wages owed. Integrated with a database of industrial relations information in Australia, workers are able to select their industry/company and position in order to calculate statutory base, penalty and overtime rates, allowances and deductions, as well as break conditions and other wage determinants. The virtual payslip provides a budgeting tool to accurately predict pay as well as the ability to detect underpayments both past and present. Outflank Pay Tracker also features educational information regarding workplace entitlements, and a job browser to enable workers to view the pay and conditions of other potential jobs.

RADAR database

ProDESC (Proyecto de Derechos Económico, Sociales y Culturales), Mexico / United States

Launched 2015

The RADAR database supports ProDESC's litigation on behalf of workers in Mexican and U.S. courts. ProDESC uses the database to capture, securely store and analyze de-identified information of labor abuses across complex supply chains that it receives from migrant workers and their communities. RADAR is intended to enable ProDESC to notify recruiters, employers, and companies at the top of supply chains about recruitment or employment-related breaches, putting them on notice of potential labor violations and thereby satisfying an element of liability under U.S. laws. Parts of the database are intended to be shared with U.S.-based lawyers to assist them in legal actions on behalf of migrant workers in the United States.

Record My Hours

Fair Work Ombudsman (FWO), Australia

Launched 2017

Designed by the Australian labor regulator, this smartphone app enables users to record when they start and finish work. The use of geofencing technology (which leverages smartphone features like Maps, GPS, and the phone's location services to maximize battery efficiency) lets users set their workplace location and automatically record when they start and finish work based on their location. Users receive a notification at the end of every shift to remind them to review their hours and adjust them if necessary. Other functionality includes the ability to add rosters to a calendar, receive notification reminders about upcoming shifts, and take photos of information such as pay slips or job advertisements. Data recorded by workers is stored on workers' phones and may be uploaded by workers onto iCloud or Dropbox, or exported via email. No data is held centrally by FWO. The app will detect the language settings of a user's phone and automatically display in that language.

C. Platforms that provide workers with responsive and tailored information

Migrant workers often lack reliable information about conditions in their country of employment and at their worksite. Many are also unfamiliar with their rights in relation to their recruitment, employment, and other aspects of their migration. Very few are aware of their options when things go wrong, and are unfamiliar with complaints or claims processes and relevant institutions at home or abroad.

Countless digital technology initiatives now offer migrant workers information about their rights and legal processes. Developers of information platforms or portals face challenges in determining the content and mode of information delivery most useful to migrant workers at different stages of their journey. There are also challenges in determining how migrant workers can and will use the information to improve their situation, and whether this is possible in practice in the face of migrant workers' vulnerabilities and the structural drivers of exploitation. They also confront significant ongoing resourcing challenges to ensure that information is accurate, up-to-date, and reflective of changing migrant worker interests and needs.

This report does not focus on the range of platforms that deliver information to migrant workers, but rather provides illustrative examples of digital tools that innovate in the content of information they provide and the way in which it is delivered. These include:

- Providing new digital forms of content intended to be more accessible to migrant workers such as comics, videos, podcasts, news alerts or radio dramas that require limited internet bandwidth;
- Integrating platforms with other information-dissemination mediums such as commercial and community radio programming;
- Providing updates on ever-changing laws and policies and lists of accredited and blacklisted recruitment agents that would otherwise be difficult or impossible for a worker to obtain;
- Providing country- and corridor-specific guides with tailored information;
- Using chatbots powered by artificial intelligence to provide answers in real-time to a worker's specific questions; and
- Providing online tools to calculate information such as loan repayments, interest accumulation, and foreign exchange.

Further investigation is needed into the features that differentiate platforms that have enjoyed high uptake as compared with those that have not, as well as the features that increase the likelihood that migrant workers will use a platform again or recommend it to others (e.g., integration with news or pop culture related media stories, social media platforms or other services).

Examples of platforms that provide migrant workers with responsive and tailored information:

Contratados

Centro de los Derechos del Migrante (CDM), United States/ Mexico

Launched 2014

Contratados, discussed above, contains a repository of Know Your Rights materials and a news section with regular blog posts that are widely shared across social media. The platform's downloadable, small-sized comics and radio dramas provide workers with user-friendly information in a format that is practically accessible for those with limited data, internet access or literacy.

HourVoice

Donald Chartier, United States

Launched 2016

HourVoice, discussed above, provides information to workers about their work rights as part of a suite of functions.

Inclusive Labour Monitoring System / Golden Dreams

Issara Institute, Thailand

Launched 2017

Golden Dreams, discussed above, provides jobseekers and migrant workers with detailed information, updated weekly, about changing laws and policies that are otherwise difficult to obtain. Issara's policy team obtains regulatory updates from the Burmese, Cambodian, and Thai governments, which are translated into simplified messaging in Burmese, Khmer, and Thai. The platform also provides the latest information on blacklisted recruitment agencies, as well as those agencies that participate in ethical recruitment programs. This information is based on high volume queries and problems communicated through Issara's helpline and other worker voice channels.

Just Good Work

Fifty Eight, Anglican Alliance, and Life 236, United Kingdom and Uganda

Pilot launched 2018

Just Good Work is an information platform that enables migrant jobseekers and workers to receive information about their recruitment, migration, and employment journeys. The pilot is for workers going from Kenya to Qatar, and the platform will be available for multiple sending and receiving countries. Information, stories from other workers, and interactive job offer and contract checklists are available offline, as well as referrals to local agencies and helplines that may offer support and advice at each stage of the journey. Audio-visual content seeks to address literacy barriers. It is envisaged that future developments may include industry-specific advice, tailored pre-departure and induction training services for specific companies and information on approved recruiters.

Shuvayatra

The Asia Foundation and partners, Nepal

Launched 2016

Shuvayatra is a multi-platform initiative that provides information and financial tools to Nepali migrant workers. It contains over 1,000 short articles and guides to safe migration, employment, and financial literacy, as well as information specific to particular countries of migrant employment and resources for women migrants. It also provides information through brief video "explainers" about financial concepts, and podcast series on employment and finances produced by the project and local radio stations. A financial services directory contains information for every registered bank and branch locations in Nepal, as well as financial institutions' contribution of information about their services and rates.

The initiative's interactive components include a Q&A area where users can submit questions and receive direct responses from organizations working to support safe migration, and two weekly call-in shows broadcast live on Facebook and terrestrial radio. It also has a growing list of interactive tools, customized alerts and news feeds tailored to migrants' needs, including tools for calculating loan repayment, interest accumulation, and foreign exchange. New features currently under development include: a chatbot service, a structured courseware system with short online training modules, a mobile wallet integration, and a job board showing real salary data.

Shuvayatra integrates multiple online and offline channels. In addition to a responsive web app and Android app, its Facebook page content is shared with 22 local radio stations and the 800,000+ daily users of the Hamro Patro app. It also engages with individual migrants via direct offline outreach in destination countries and districts of Nepal.

WorkIt

Organization United for Respect (OUR), formerly OUR Walmart, United States

Launched 2016

WorkIt is an intelligent online peer-to-peer information platform developed by OUR for the approximately 150,000 Walmart workers in OUR's network. Prior to building WorkIt, OUR's traditional and online organizing included members participating in over 1.5 million conversations on Facebook to exchange information and advice on Walmart's policies, their rights, and how to address workplace issues.[83] WorkIt was designed as a safer, more effective, scalable and more accurate online space for these functions, overcoming challenges that Facebook discussions were difficult to navigate and search, unmoderated and retained little institutional knowledge.

WorkIt answers individual workers' questions about Walmart's corporate workplace policies in real-time using a chatbot.[84] For questions such as, "Am I entitled to parental leave?" the app uses Artificial Intelligence to learn from answers previously entered by volunteer peer experts to instantly respond with a tailored answer based on the worker's location, employment status, and their department. Where WorkIt is unable to answer a question, it refers the question to the peer experts volunteering at the back-end, and then learns from the answers they provide. In order to manage the risks of providing inaccurate information, OUR peer experts independently verify answers and re-open conversations where necessary to clarify or update answers. Workers can access the app either anonymously (less than 30 percent of users) or as registered users who must provide a username, password, phone number, their employment status, department, and state. Registered users can consent to being connected to others who have lodged similar questions, to participate in topic and group chats, learn more about a relevant OUR campaign or sign a relevant petition, in a safe, closed environment.

OUR organizers promoted uptake through workplace visits, organic and paid online outreach, handing out palm cards, and conversations with workers. This was followed up with social media campaigns, and text and email outreach. Although OUR received initial seed funding from the United Food and Commercial Workers union and philanthropic donors, it is now commercializing the platform for sale to other unions to fund improvements and expansion.

[83] Susan Berfield, "Labor Group Gets IBM's Watson to Help Walmart Workers," Bloomberg Businessweek, November 14, 2016 https://www.bloomberg.com/news/articles/2016-11-14/group-enlists-ibm-s-watson-to-answer-walmart-workers-questions.

[84] Ibid.

D. Digital tools that promote peer-to-peer connections and collective organizing among workers

Workers globally are increasingly isolated due to declining unionization and fragmentation of large workforces across multiple locations. This is more acute for migrants who work in locations far from home. In this context, migrants and other workers are turning to digital platforms to connect with people in similar situations, share stories and information, and to strategize and scale worker organizing and collective action.[85] This includes use of mobile messaging apps[86] and social media.[87] It also includes workers' use of social media to engage with consumers to exert pressure on recognizable brands.

MIGRANTS AND OTHER WORKERS ARE TURNING TO DIGITAL PLATFORMS TO CONNECT WITH PEOPLE IN SIMILAR SITUATIONS, SHARE STORIES AND INFORMATION, AND PURSUE WORKER ORGANIZING AND COLLECTIVE ACTION.

Traditional sectors within the labor movement appear somewhat resistant to using technology to change the way they work, as are many other institutions with long-standing complex and political structures. Use of digital platforms may force a bottom-up approach that may be seen as a threat by existing leaders,[88] and may require different ways of working including intensive collaboration across previously discrete parts of a large organization.[89] In contrast, outside the formal labor movement, migrant worker advocates have few traditional ways of working and many are embracing technology within efforts to innovatively address emerging and evolving challenges.

Some progressive trade unions and migrant organizers are exploring new ways to collaborate with technologists to build safe, scalable, and effective spaces for online worker organizing. Purpose-built digital platforms have been developed to enable workers within a particular company or industry to share information, create petition-based campaigns, and engage with each other collectively. Within this space, organizers are faced with key questions: whether tailored platforms have advantages over social media and mobile messaging apps that warrant the investment of funds to develop and maintain them; whether these should be integrated with general social media platforms; and what risks flow to workers and platform hosts in both contexts.

Bespoke peer-to-peer platforms may use mediators, gate-keepers, and experts to facilitate engagement in an attempt to create a forum that is less chaotic and more focused and organized than unmediated social network spaces. These platforms are also designed to overcome risks for workers of surveillance and retaliation by employers that may monitor social media.[90] These include, for example, users posting information on social media that they would not otherwise share, without realizing that others have access to the information, and users' inadvertent disclosure of detailed information about their social networks. Platform hosts relying on external social media platforms also confront the risk that a social media company could change or remove a functionality being relied upon for worker organizing.[91] Similarly, the complex structures involved where apps are built on top of other platforms like Facebook can produce uncertain consequences for data ownership and privacy.[92] Use of social media or bespoke platforms for worker organizing also carries a risk of infiltration by someone seeking to derail the workers' action, or to obtain information to benefit the company, through use of an elaborate fake online profile that enables them to become a trusted member of the group. Though there

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85 Mark Zuckerman, Richard D Kahlenberg and Moshe Z Marvit, *Virtual Labor Organizing: Could Technology Help Reduce Income Inequality?*, The Century Foundation, June 10, 2015 https://s3-us-west-2.amazonaws.com/production.tcf.org/app/uploads/2015/06/10035738/VirtualOrganizing-10.pdf.

86 The use of mobile messaging apps will likely continue to grow as these apps are recorded to be the fastest growing digital communication ever -- by 2018 it is predicted that 3.6 billion worldwide will use messaging apps: The Engine Room, Block Party and the International Committee of the Red Cross, *Humanitarian Futures For Messaging Apps: Understanding the Opportunities and Risks for Humanitarian Action*, March 2017, 16 https://www.theengineroom.org/wp-content/uploads/2017/01/4299_002_Humanitarian-Futures-for-Messaging-Apps_01.pdf.

87 In China, for example, online social network platforms such as Weibo and WhatsApp-style instant messaging tools such as Tencent QQ and WeChat have been reported as helping migrant workers in China to share information and hold discussions directly, discreetly and instantaneously with one another and with staff at worker centers: Eric Gottwald and Kevin Lin, "Harnessing Digital Platforms to Mobilize Workers in China: The Experience of Workers' Rights Centres," in JustJobs Network (eds), *Transformations in Technology, Transformations in Work,* October 2016, 87-102 http://www.justjobsnetwork.org/wp-content/pubs/reports/transformations_in_technology_report.pdf.

88 Emma Oppenheim (Open Society Foundations) in discussion with the authors, July 2018.

89 Sara Smylie (United Voice) in discussion with the authors, July 2018.

90 Andrea Dehlendorf (Organization United for Respect) in discussion with the authors, July 2018.

91 Ibid.

92 Dr Mark Latonero (Data & Society) in discussion with the authors, July 2018.

are no known cases yet in this sector, occurrences of "trolls" derailing democratic or collective digital action are well-documented in other areas.[93] These and other risks related to social media are considered in more detail in the discussion on Facebook in Section IV.B below.

At a broader level, advocates encounter barriers to collective action and organizing migrant workers in the absence of unionization and in contexts in which freedom of expression may be limited. There remains a question as to whether a digital platform can facilitate worker connection where it does not already exist, or whether workers need to have a pre-existing connection to each other, such that the platform improves collaboration by making it quicker, more efficient, secure and/or scalable. In either context, organizers seeking to use digital platforms confront the challenge of how to establish trust and other conditions that will enable migrant workers to organize through the digital forum.

Ultimately, both social media and bespoke digital platforms can significantly enhance organizing or collective action but carry a risk of rendering invisible the work that needs to happen in order to transfer the critical mass and energy that develops in the online space into offline action and enduring change.[94]

Examples of digital tools that promote peer-to-peer connections and collective organizing among workers:

Coworker.org

Coworker.org, United States

Launched 2013

Modeled on general-use petition platforms such as Change.org, Coworker.org enables workers to establish and join petition-based campaigns led by workers to improve working conditions. Coworker.org also provides workers with access to digital peer networks for surveys and polling, assistance promoting their campaigns in the media and online, and leadership development and training. Coworker.org's worker-led campaigns have resulted in company policy changes on certain issues (e.g., changing dress code policies) within large, consumer-facing companies such as Starbucks.

OFW Watch

Overseas Workers Welfare Administration/ Department of Labor and Employment, Philippines

Launched 2014

OFW Watch combines emergency assistance with facilitation of social connection and support for Filipino Overseas Foreign Workers. The platform allows users to register via their Facebook page and connect to other Filipinos in a similar geographic area who share the same dialect, hometown, and profession. If the worker becomes inactive on social media for a period of time, OFW Watch can send emergency alerts to users who are nearby. It also contains a general Philippines-related newsfeed and updates from OFW Watch Facebook pages for individual countries.

WorkIt

Organization United for Respect (OUR), formerly OUR Walmart, United States

Launched 2016

As discussed above, WorkIt is a private forum established by Walmart workers that enables users to connect with other Walmart workers with similar issues to obtain information and answers to questions, and alerts them about current campaigns and petitions.

[93] This may occur via open social media platforms or more closed platforms such as comments on news sites: see e.g. Samantha Bradshaw and Philip N Howard, "Troops, Trolls and Troublemakers: A Global Inventory of Organized Social Media Manipulation," Computational Propaganda Research Project, Working Paper no. 2017.12 http://comprop.oii.ox.ac.uk/wp-content/uploads/sites/89/2017/07/Troops-Trolls-and-Troublemakers.pdf; Jennifer Forestal, "The Architecture of Political Spaces: Trolls, Digital Media, and Deweyan Democracy," *American Political Science Review* 111 no. 1 (February 2017) https://doi.org/10.1017/S0003055416000666.

[94] Internet scholar Zeynep Tufekci has noted that the Internet has made social change easy to organise, but hard to win: Zeynep Tufekci, "Social Movements and Governments in the Digital Age: Evaluating a Complex Landscape," *Journal of International Affairs* 68 no.1 (Fall 2014).

IV. CROSS-CUTTING CHALLENGES, RISKS, AND TRADEOFFS

A. Effectiveness: Developing digital tools that address an identified problem with clear outcomes for migrant workers

There are several challenges to determining whether a digital technology initiative is effective. At the outset, this will depend on how the platform host conceives the problem that the technology is intended to address. For example, is the tool trying to address the problem that there is a lack of data in relation to working conditions of migrant workers within supplier businesses, or that migrant workers are being exploited within supplier businesses? Defining and measuring effectiveness will differ substantially between these two conceptions of the relevant problem.

Outcomes for workers: What is effectiveness?

Individual migrant workers may obtain a range of personal benefits from engaging with a digital technology initiative. These might include referral to legal or support services, receipt of information that enables them to make better decisions to avoid unscrupulous recruiters and employers, and access to effective pathways to individual legal remedies. Further collective benefits for migrant workers might include improved pay or working conditions at their worksite.

Where a platform is not intended to have direct outcomes for the individuals who engage with it, considerations arise regarding the ethics and consequences of asking the worker for his or her time and contribution. Such outcomes may include longer-term improvements to conditions for workers in general, or influencing a company's choice of suppliers or recruiters who afford better protection to other migrant workers in the future.

In all of these circumstances, it is important to consider the theory of change underpinning the initiative's intended role, and to manage users' expectations as to the likely impact of their engagement. For instance, platforms that provide workers with information should consider how access to that information is intended to improve workers' circumstances. Where initiatives collect or solicit data on labor rights violations, it is important that workers understand how their data is intended to be used and what outcomes are envisaged. Visible outcomes for users may also encourage them to provide more in-depth information.[95]

Measuring effectiveness

There may be a misperception that initiatives underpinned by digital technology can be more easily evaluated because they generate "hard data." This is not necessarily the case. Evaluations that are focused only on superficial factors that are easily quantifiable, such as frequency of usage or downloads, are not the same as evaluating the *quality or outcomes* of worker engagement. These can be much harder to assess, and may require ongoing qualitative evaluations that are likely to take time and additional resources.[96] For example, this may involve gathering further data from workers on whether their grievances were addressed or working conditions improved

[95] Zara Rahman (The Engine Room) in discussion with the authors, July 2018.
[96] Dr Carmen Rojas (The Workers Lab) in discussion with the authors, July 2018.

after they engaged with a digital initiative, understanding what workers did with information they obtained from a digital platform, or evaluating justice outcomes for workers who used an evidence-gathering tool. Some survey companies build in an evaluation phase that may involve, for example, doing a push survey to a subset of respondents about their experience of the survey and the technology, and whether they feel it had an impact.[97]

IT MAY BE EASY TO MEASURE THE QUANTITY OF DATA BUT MUCH HARDER TO EVALUATE ITS RELIABILITY AND REPRESENTATIVENESS.

Measuring effectiveness is challenging even if only evaluating whether a worker survey accurately reflects worker experiences, leaving worker outcomes aside. It may be easy to measure the quantity of data but much harder to evaluate its reliability and representativeness. There are generally tradeoffs between collection of data at scale, and the ability to ensure that the information provided is honest and comprehensive, which may require greater depth of contact and development of worker trust.

There are obvious benefits to platform hosts sharing information on factors contributing to effectiveness, as well as honest assessments of areas where the platform has not fulfilled its objectives. However, non-profit organizations may be reluctant to share negative assessments as they strive to obtain funding for improvements, expansion or other activities. Commercial platforms also have strong disincentives to share negative appraisals of their effectiveness for reputational reasons as their business model relies on commercial investment and purchase of their product or services. It is important in this context for funders to recognize and support the iterative development of digital tools over time in order to encourage honest evaluations that can be shared with others.

Factors that appear to enhance effectiveness

Digital initiatives are more likely to effectively deliver worker outcomes if they are a means for expanding or strengthening broader offline programs with well-conceived theories of change. This involves understanding the political, economic, and other forces driving the problem, and a clear theory of how the technology will overcome the obstacles that have undermined previous efforts to address the problem. The most useful starting point is often not the form of technology (e.g., how might we use X technology to help migrant workers?).[98] Instead, a form of technology is more likely to be effective because it presents a means of solving a particular problem within a broader context of activities. Stand-alone initiatives are unlikely to fix a problem on their own. Rather, the most effective digital platforms are implemented with strong institutional capacity including capacity to offer support to migrant workers.[99]

B. Privacy and security risks to workers: Responsible collection and use of data[100]

Risks to workers flowing from access to their data

Platforms that collect data about migrant workers, their activities or their experiences (whether intentionally, or as a byproduct of collecting other data) can create risks to individuals or groups of workers. For example, a third party could gain unauthorized access to a worker's information by accessing the worker's device (e.g., taking their phone). A centralized 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.[101] 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 unfavorable information about them. An employer may also be alerted to a worker's misconduct with negative consequences for the worker.

[97] Heather Canon (ELEVATE) in discussion with the authors, July 2018.
[98] Dr Carmen Rojas (The Workers Lab) in discussion with the authors, July 2018.
[99] The Engine Room, *Technology Tools In Human Rights*, September 2016 https://www.theengineroom.org/wp-content/uploads/2017/01/technology-tools-in-human-rights_high-quality.pdf.
[100] This section was drafted with input from The Engine Room (Gabi Sobliye, Madeleine Maxwell and Zara Rahman).
[101] Rachel Micah-Jones (Centro de los Derechos del Migrante, Inc.) in discussion with the authors, July 2018.

These risks are compounded by questions of who ultimately owns the migrant worker's data, which can especially arise where an app is layered on top of another platform such as Facebook, or where telecommunications providers own or have access to data transmitted through their service.

PLATFORM HOSTS SEEKING TO ASSESS AND MINIMIZE PRIVACY AND SECURITY RISKS TO WORKERS NEED TO CONSIDER WHAT DATA TO COLLECT, WHERE TO STORE IT, HOW TO ANALYZE IT, HOW AND WITH WHOM TO SHARE IT, AND HOW LONG TO RETAIN IT (INCLUDING ARCHIVING AND DELETION).

Addressing data security risks

It perhaps goes without saying that initiatives intended to benefit migrant workers should seek to ensure responsible use of workers' data in a manner that empowers, and does not harm, them. Some argue that in addition to articulating a theory of change, it may be appropriate for all platform developers to have a "theory of harm" establishing a taxonomy of the worst possible things that could happen to workers at each stage of the project, in order to identify potential blind spots and mitigation strategies.[102] Others go so far as to suggest that because most digital platforms are untested and in such early stages they should be governed by the same ethical rules as experiments.[103] These approaches recognize that technology may not operate as envisaged and workers may use the platform in unexpected ways.[104] They also recognize that potential harms that could flow from engagement with a digital platform are often invisible to the migrant workers who use them.[105] For instance, while a platform host may provide an option to choose a username to safeguard users' identities, many may simply choose a name similar to their own or their social media handle. This enables employers and government agencies to easily locate them. In response to this risk, some initiatives opt to force anonymity and not allow users to create identities.[106]

It is impossible to eliminate all risks associated with data collection. Approaches to ensuring data security therefore involve tradeoffs between benefits to workers of collecting types of data in particular ways, and the extent to which risks are minimized. For example, collecting and retaining less data, and storing it for less time, minimizes potential harms to workers.[107] However, this may also compromise an organization's capacity to verify or contextualize that data, respond to individual workers or enable their access to redress for harms reported. The tradeoffs are particularly difficult to measure when the likelihood of benefits and risks to workers each remain undetermined. This is the case where organizations are tempted to collect and retain as much data as possible in case of future potential uses to benefit workers.

Platform hosts seeking to assess and minimize privacy and security risks to workers need to consider what data to collect, where to store it, how to analyze it, how and with whom to share it, and how long to retain it (including archiving and deletion). Addressing risks at each stage of the data life cycle requires resources and time, a concern that funders need to address.[108] Responsibility for ensuring migrant workers' security should not be outsourced to those involved in the technical development of platforms, who may not understand the relevant risks without input from migrant worker organizations. Privacy and security experts can play a useful translation role between those approaching the initiative from a more mission-driven rights-based approach, and those who are more focused on agility and improved technological solutions. Within collaborations involving migrant worker organizations, discussing up front issues like data ownership and clarifying end-of-project arrangements (such as what happens to the data if one of the stakeholders ceases to operate) can also mitigate future potential problems.

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[102] Lucy Chambers, "Utopian and Dystopian Theories of Change: A Template," *Responsible Data*, March 16, 2015 https://responsibledata.io/2015/03/16/utopian-and-dystopian-theories-of-change-a-template/; Dr Mark Latonero (Data & Society) in discussion with the authors, July 2018.

[103] Dr Mark Latonero (Data & Society) in discussion with the authors, July 2018.

[104] Ibid.

[105] Ibid.

[106] Dr Lisa Rende-Taylor (Issara Institute) in discussion with the authors, July 2018.

[107] Data minimization 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, 63 https://www.theengineroom.org/wp-content/uploads/2016/09/datnav.pdf.

[108] Philanthropic donors face a range of parallel considerations concerning their grantees. Michael Brennan et al, "Digital Security & Grantcraft Guide: An Introductory Guide for Funders," NetGain Partnership, 1 March 2017 https://www.fordfoundation.org/media/3334/digital-security-grantcraft-guide-v10-final-22317.pdf.

Case study: Integrating digital tools with Facebook and other social media platforms[109]

A number of migrant worker initiatives use Facebook as their main way of engaging with workers. Using Facebook and other social media platforms (such as Twitter or WeChat) can increase viewership, engagement or participation. Initiatives may use these platforms to reach people where they are already gathered, provide a familiar interface that does not require users to master a totally new tool or as a shortcut by building on this pre-existing infrastructure. Facebook pages and groups may allow users to share experiences of rights violations with each other and convey useful information to migrant worker initiatives. Some initiatives monitor social media activity to identify effective leaders or organizers among groups of users.

There are also a range of reasons for platforms to adopt a purpose-built interface rather than rely on Facebook. For instance, without dedicated systems for organizing information or threads on particular topics, reliance of Facebook's rudimentary search function can inhibit users' ability to quickly access specific information previously provided by other users.[110]

In addition, as illustrated by recent exposés of global data breaches, individuals' use of social media can also carry great risks. Facebook is often incorrectly perceived as a "private space" between the user and their network, which can lead users to post personal data or experiences without understanding who may access that information. This raises a number of related concerns:

- **Data ownership:** Typically, any information shared on a private platform no longer belongs to the user who shared that content. The privacy policies and terms of use can change at any point.
- **Group ownership:** Because Facebook owns the group, in the event of a split within the organization that established the group, Facebook determines who maintains ongoing control.[111]
- **Privacy:** Those posting information may not be aware of which privacy settings they have activated and how that affects who can access data they are posting. Even after information has been deleted, it typically remains on the platform's servers.[112]
- **Data sharing:** Many social media platforms have data sharing agreements in place (or contracts for selling that data). There is frequently no way of identifying those third parties or what they do with that data.
- **Sustainability:** Risks also arise for initiatives themselves when they have integrated social media into their platforms, since that infrastructure may become restrictive as the initiative grows, or even change or be permanently removed without notice.

Initiatives therefore have to assess the implications of integrating various forms of social media within their platform. Their data retention policies should reflect data collected from social media platforms. They also should communicate to users how data shared via social media will be collected, kept, and used as well as inform users of the risks of posting personally identifiable information on platforms like Facebook.

[109] This section was drafted with input from The Engine Room (Gabi Sobliye, Madeleine Maxwell and Zara Rahman).
[110] Andrea Dehlendorf (Organization United for Respect) in discussion with the authors, July 2018; Rachel Micah-Jones (Centro de los Derechos del Migrante, Inc.) in discussion with the authors, July 2018.
[111] Andrea Dehlendorf (Organization United for Respect) in discussion with the authors, July 2018.
[112] "Facebook's Privacy Principles," accessed July 5, 2018 https://www.facebook.com/about/basics/privacy-principles.

Migrant workers' informed consent

In some contexts, migrant workers may be best placed to identify risks to their privacy and security in relation to their data. However, in other contexts, workers may be unaware of potential consequences of sharing their data and may rely on platform hosts for their protection. In either case, migrant workers should provide informed consent to the use of their data, which is based on information they have been given on why the data is being collected, what it will be used for, who it will be shared with, the potential risks to them, and the expected impact. A long-winded and legalistic privacy policy is unlikely to effectively communicate these issues to workers. The process of gaining informed consent presents an opportunity to design an empowering process that builds trust and engagement from users, while setting their expectations.

According to responsible data experts The Engine Room, provision of information on possible uses of the data or risks to users may be insufficient: best practice requires that consent is informed, active, and voluntary, with an opt-in function and a record of consent. This can be especially challenging with marginalized or vulnerable communities, for whom issues arise regarding accessibility, literacy, and different cultural attitudes toward consent. Indeed, requiring informed consent may be perceived as a barrier to uptake or usability. These challenges can be addressed by gaining verbal consent in areas of low literacy, or providing information through multiple channels to ensure active understanding of how workers' data will be used. This might include in-person explanations, video explainers followed by a check-box, and written summaries. To ensure that consent is voluntary, the migrant worker should be clearly told that they will not be denied access to key services if they decline to provide their data. The ability to withdraw consent is also important. In the event of changes to how data is used (e.g., if the initiative becomes commercialized) best practice, according to The Engine Room, is to inform migrant workers and provide a means for them to remove their data from the dataset. In practice, however, this may be challenging, particularly if the data is anonymized.

OBTAINING INFORMED CONSENT FROM USERS DOES NOT REMOVE THE OBLIGATION OF PLATFORM HOSTS TO MINIMIZE RISKS TO WORKERS, ESPECIALLY RISKS THAT MAY NOT BE FULLY UNDERSTOOD BY THE WORKER.

Ultimately, obtaining informed consent from users does not remove the obligation of platform hosts to minimize risks to workers, especially those that may not be fully understood by the worker. For example, as mentioned above, permitting workers to choose their own username may still carry risks where a worker adopts a pseudonym that resembles their identity on social media without realizing that it can easily be searched and traced back to them.[113]

Potential benefits and risks of sharing large de-identified datasets

Some have called for integration of worker data across different platforms to establish a bigger data picture. This would provide intelligence to more effectively target the interventions of NGOs, governments, and others. For example, this might address a concern that data collected for corporate compliance is not often fed into law enforcement efforts to address trafficking or deregister recruitment agencies. Similarly, data collected by government or NGOs in relation to recruitment agencies frequently does not inform agency licensing processes.[114] At the same time, integration and sharing of data may carry significant risks. Without the context of each dataset, the data may establish a distorted picture especially where the different datasets are of different qualities. More seriously, even aggregated data that is shared without workers' consent may enable government or private parties to use the data to the detriment of workers. For example, governments could target particular worksites for immigration raids or recruitment agencies could identify the sites at which workers are complaining about their conduct.

[113] Dr Lisa Rende-Taylor (Issara Institute) in discussion with the authors, July 2018.

[114] Bama Athreya (United States Agency for International Development) in discussion with the authors, July 2018. See also Wilton Park, "The Role of Digital Technology in Tackling Modern Slavery," WP1546, July 2017, https://www.wiltonpark.org.uk/wp-content/uploads/WP1546-Report.pdf.

Evolving regulatory frameworks

Amidst evolving national privacy regimes globally, the new uniform GDPR has been described as the "biggest overhaul of the world's privacy rules in more than 20 years."[115] Having entered into force in May 2018 throughout the European Union, it establishes users' *right* to the privacy of their information and stipulates measures that platform hosts must take to ensure the elements of that right can be meaningfully exercised in practice.[116] The European GDPR is significant for all worker engagement platforms globally. This is, first, because it applies to any data processing activities anywhere in the world that offer goods or services to individuals in the European Union or EU citizens abroad (including those that do not require any payment).[117] Second, breach of its provisions carries serious financial penalties. Third, it reflects current best practice in relation to the security of personal data.

The GDPR establishes seven guiding principles[118] and a number of specific user rights. The principles are:

1. **Lawfulness, fairness, and transparency**: There must be a lawful basis for collection and use. Data must not be processed in a way that is unduly detrimental, unexpected or misleading. Individuals must be informed about the uses of their data.
2. **Purpose limitation**: Purposes for data collection must be recorded and specified to individuals in privacy information.
3. **Data minimization**: Data must be adequate to properly fulfil the stated purpose of collection, and must be relevant and limited to what is necessary.
4. **Accuracy**: All reasonable steps must be taken to ensure the personal data being collected or held is not incorrect or misleading. Regular updating may be necessary and, if data is discovered to be incorrect, reasonable steps must be taken to correct or erase it.
5. **Storage limitation**: Personal data must not be kept for longer than required, and storage should be periodically reviewed.
6. **Integrity and confidentiality (security)**: Appropriate security measures must be in place to protect personal data in storage.
7. **Accountability**: Those who collect and hold personal data must take responsibility for its use. Appropriate measures and records must be in place in order to demonstrate compliance with these principles.

Individuals have a right to be informed about the collection and use of their data (including the purposes for which it will be processed), as well as rights to access their data and withdraw their consent.[119] Correspondingly, platform hosts must also have the operational capacity to remove an individual's personal data from a dataset. Users' consent to the processing of their data must be freely given, specific, and informed, and users must provide an unambiguous indication of their wishes by a statement or a clear affirmative action.[120]

In addition to data protection laws, whistleblower laws may also provide safeguards for migrant workers who use technology to report abuses and protect them from defamation liability. This is discussed in Section IV.C.[121]

Good practices

The Engine Room has identified guiding principles and several good data security practices that are emerging within digital technology initiatives in a range of sectors.[122] These include:

- Carrying out regular data audits, mapping what data is held, where, and why.
- Collecting and storing only the minimum data necessary to avoid leakage or subpoena of data by third parties.
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[115] Mark Scott and Laurens Cerulus, "Europe's new data protection rules export privacy standards worldwide," *Politico*, January, 31 2018 https://www.politico.eu/article/europe-data-protection-privacy-standards-gdpr-general-protection-data-regulation/.
[116] European Commission, Joint Statement on the Final Adoption of the New EU rules for Personal Data Protection.
[117] Recital 23, GDPR.
[118] Art 5, GDPR.
[119] Arts 12, 13, 14, 15, 16, 17, 18, 20, GDPR.
[120] Art 4(11), GDPR.
[121] Samir Goswami (Samir Goswami LLC) in discussion with the authors, July 2018.
[122] This section was drafted with input from The Engine Room (Gabi Sobliye, Madeleine Maxwell and Zara Rahman); see also Zara Rahman, "RD 101: Responsible Data Principles," *Responsible Data*, January 24, 2018 https://responsibledata.io/2018/01/24/rd-101-responsible-data-principles/.

- Limiting data retention: only holding data collected for as long as needed, including user IP addresses and other identifying data.
- Storing data securely and informing users about what data is stored locally on users' devices, and what is stored about them in places that they cannot directly access.
- Setting appropriate permissions and access mechanisms: only people who need to see sensitive data should have access to it, and these permissions should be reviewed regularly.
- Carrying out regular risk assessments, Privacy Impact Assessments, or threat modelling to assess potential risks and harms. This should also involve mechanisms that alert the platform host to unintended consequences.
- Designing a well-considered consent process that transparently identifies risks to workers, clearly states the purpose for which the data will be used, and ensures that not giving consent for a particular use of digital data does not prevent access to support.

C. Legal and other risks to digital platform hosts

Digital tools carry a range of risks for the organizations that develop, host, implement, and fund them. These include legal risks, financial risks (addressed in Section IV.E. below), and reputational risks when platforms over-promise and do not deliver, or provide inaccurate information or poor guidance. This section considers legal risks in relation to third parties. However, platform hosts may also bear legal risks in relation to migrant workers. For example, they may be liable for the provision of misleading information, promising rewards that are not delivered, or for breach of data privacy without consent. The extreme unlikelihood of a worker pursuing a claim against a platform host creates a greater ethical imperative on the platform host to ensure it does not violate workers' legal rights.

Data protection compliance risks for hosts

Platform hosts will likely be subject to data protection regulations across a number of different jurisdictions. This may include jurisdictions where: the platform is hosted; the user is located; the information is processed; the data is shared or the user is a national. For example, as discussed in the previous section, the GDPR applies to European citizens regardless of location, as well as data that is processed in Europe (e.g., where partners within Europe hold data gathered on the platform).[123]

Under a range of anti-terrorism and cybersecurity laws, platform hosts are required to retain user data for a period of time during which they are prohibited from deleting or flushing user data. In some Asian jurisdictions, this can be for several years.[124] This has significant resource implications for platform hosts in terms of storage of data over an extended period of time, and also raises serious risks that user data may be compulsorily acquired by a government or third party in the context of a lawsuit (discussed below). Platform hosts should consider their legal obligations in relation to data retention when determining the jurisdiction in which their data will be stored, and should seek advice of local legal counsel.

Defamation liability for platform hosts and migrant workers[125]

Worker engagement platforms that enable migrant workers to provide information or views on employers or recruiters expose platform hosts and users to risks of civil or criminal liability for defamation (libel). They also create a risk that the host can be legally compelled to reveal identity data of the user who made the allegedly defamatory statement. These risks generally arise regardless of whether a forum is private or open to the public, and therefore should be considered in the context of worker surveys within supply chains, rate-and-review platforms, private group discussions on social media, and even private emails.

[123] Council of the European Union, "Position of the Council at First Reading With a View to the Adoption of a Regulation of the European Parliament and of the Council on The Protection of Natural Persons With Regard to The Processing of Personal Data and On the Free Movement of Such Data, and Repealing Directive 95/46/EC (General Data Protection Regulation)," Interinstitutional File 2012/0011 (COD), Brussels, April 6, 2016 http://data.consilium.europa.eu/doc/document/ST-5419-2016-INIT/en/pdf.

[124] E.g. in Indonesia the minimum retention for stored personal data is five years (unless stated otherwise in other laws and regulations): see Regulation No. 20 of 2016 on Personal Data Protection. In contrast, Art 5(e) of the GDPR states personal data shall be kept for no longer than is necessary for the purposes for which it is being processed.

[125] The information in this section is based on legal research and analysis provided by law firms Kirkland & Ellis LLP and Skadden, Arps, Slate, Meagher & Flom LLP: Kirkland & Ellis International LLP, "Memorandum: English Law Research," January 30, 2018, on file with the authors; Skadden, Arps, Slate, Meagher & Flom LLP, "Memorandum: Defamation Risks Regarding Yelp / Tripadvisor-Style Review Platforms for International Migrant Workers - Philippines, Indonesia, Malaysia and Thailand," July 5, 2018, on file with the authors; Skadden, Arps, Slate, Meagher & Flom LLP, "Memorandum: Defamation Risks Regarding Yelp / Tripadvisor-Style Review Platforms for International Migrant Workers - Hong Kong," July 5, 2018, on file with the authors.

Though defamation lawsuits are difficult to win, the more significant risk for workers or platform hosts lies in a criminal or civil suit being initiated in order to harass or intimidate them. Regardless of the merit of the claims, defending the action will involve protracted and costly legal proceedings, and during litigation discovery the platform host may be compelled by subpoena to reveal identity data of the migrant worker who made the allegedly defamatory statement.[126]

Many defamation and libel laws have global reach, and must therefore be carefully considered by digital initiatives seeking worker feedback in any jurisdiction. For example, under criminal defamation laws in countries such as Indonesia, Malaysia, and the Philippines, the host may be criminally liable if a user based anywhere in the world is a citizen of that country, or the effect of the crime occurs in that country (e.g., harm to Indonesian interests from reviews posted anywhere worldwide).

Civil liability

In some jurisdictions, such as the United States and the United Kingdom, users who post critical reviews may be held civilly liable for damage to a company's reputation that causes financial harm. In contrast, it is very difficult if not impossible for a platform host to be held liable for defamatory material posted by a user if the host has not moderated the site or modified or editorialized the defamatory user post. Nevertheless, in jurisdictions such as the United Kingdom, where a platform host is served with a subpoena to provide data revealing the identity of a user whose post contained defamatory material, the inability of the platform host to identify or contact that user may create liability on their own part unless it removes the relevant content.

In order to provide users with potential defenses, platform hosts should consider advising users that they should not post any statements about an employer or recruiter that are not true or are misleading, and that if they make negative statements they should be the user's honest opinion provided in good faith and based on facts. Unless the platform host flushes users' IP addresses and other identifying data, it may need to advise users that their contribution is not entirely anonymous and there is a risk that the host may be compelled to reveal the user's IP address if it is sued by an employer or recruiter. To protect themselves from potential civil liability for libel, platform hosts should avoid modifying or editorializing content, though the definition of which activities constitute "moderation" varies between jurisdictions and case law remains limited.

Criminal liability

In a number of countries, particularly in Asia, libel is a criminal offense carrying penalties of imprisonment and/or substantial fines. Platform hosts may also attract further liability for cybercrimes involving libel committed through a computer system. In the Philippines, for example, hosts may be criminally liable if they caused the publishing or exhibiting of users' defamatory statements. A court can order a platform host to disclose traffic data, user identity, and IP information; platform hosts are required to keep this information for at least six months. In Thailand, uploading hardcopy reviews by users to an online platform may expose the platform host to criminal liability for defamation. Indonesia's cybercrime laws may apply to anyone "transmitting" defamatory statements, including potentially by private SMS or email, or anyone making defamatory statements accessible, potentially via "likes" or "shares" on social media.

Defenses may be available, such as having made a statement with good intentions or in the public interest. However, it may be imprudent to rely on the success of these defenses, particularly in contexts in which government officials may have ties to employers or recruiters and where rule of law is weak and judicial corruption is a problem.

[126] In countries such as Thailand, businesses may purchase professional indemnity insurance that covers costs associated with defending against alleged libel or slander. See e.g. AIG (Thailand), "Professional Indemnity", accessed July 5, 2018 http://www.aig.co.th/en/business/products/financial-insurance/professional-liability.

Case study: Contratados' approach to limiting liability and reducing risk of harassment[128]

The Centro de los Derechos del Migrante considered how to structure the Contratados platform in a manner that would limit the risk of harassment and liability for the organization, migrant workers and funders, while providing actionable information for workers. It obtained legal advice in relation Mexico, the United States, and other jurisdictions and took the following steps to mitigate risk:

- Structuring the platform to meet conditions for immunity under section 230 of the U.S. Communications Decency Act of 1996 (codified at Title 47 USC § 230).
- Delineating information that is publicly available from that submitted by a user.
- Not editing the content of reviews.
- Providing users with detailed instructions, including on how to use the site.
- Asking only yes/no questions with no opportunity for narrative responses.
- Allowing migrant workers to use the site anonymously.
- Using a server in a third country with aligned values, which agreed not to hand over information to authorities unless subject to a court order.
- Flushing user identity data to avoid disclosure in the event of a subpoena.
- Reserving the right to remove information that exposes a user to risks or does not meet guidelines.

Reputational risks for platform hosts and funders

Platform hosts and funders may face a number of reputational risks when developing digital worker engagement platforms. Most fundamentally, they confront the risk of damaging relationships and trust with migrant worker communities, which, among other things, may erode the willingness of migrant workers to participate in future initiatives. This can happen when the host has not allocated resources for further support or longer-term activities that might be anticipated by workers. Indeed, workers may be disappointed by a lack of outcomes even when this is due to complex structural challenges that the platform could not reasonably address. However, this might be ameliorated by effective early management of expectations. Loss of trust can also occur where outdated or incorrect advice or information is provided because of insufficient resources to keep information current over the longer term. Of course, providing information that is incorrect can also cause significant harm to workers who rely on it.

Worker trust can be fundamentally damaged when a platform host over-promises but later finds that a digital initiative does not bring desired results. This can especially be the case when, in order to encourage uptake of their new platform, organizations forecast certain beneficial outcomes or promise tangible benefits to workers. For instance, where a lead firm in a supply chain, or a direct employer of migrant workers, fails to act on complaints collected from workers through a digital initiative, the blame for inaction may ultimately fall on the platform host or advocate who encouraged the workers' participation. In the initial stages of the initiative, advocates should communicate those risks and uncertainties, even if this may affect uptake.

Finally, there is a risk of initiatives being discontinued due to lack of funding or uptake. This may lead to dissatisfaction of migrant workers who have already used or entered information into the portal and now find this initiative unavailable, along with their data.

[127] Rachel Micah-Jones (Centro de los Derechos del Migrante, Inc.) in discussion with the authors, July 2018.

Financial risks for platform hosts and funders

Platform hosts, and potentially funders, confront the risk that developing, implementing, and providing ongoing fixes for a digital platform may consume far greater resources than originally anticipated. There is also a possibility that the platform will generate unanticipated increased demand for the organization's offline services that places the organization under financial strain or forces the organization to divert resources away from other core activities. These issues are discussed in further detail in Section IV.E. below.

D. Design and implementation for uptake by migrant workers

Designing for accessibility and overcoming the "digital divide"

Despite the exponential growth of digital connectivity worldwide, factors such as age, income level, education, gender, and IT environment continue to determine who has access to digital technology, the kind of technology they can access, how they engage with that technology, and how regularly they are online.[128] Migrant workers face additional barriers to access, such as literacy in their own language and that of their country of employment.

For many low-income and vulnerable people, their smartphones or feature phones are the sole means of accessing the internet.[129] Smartphone ownership may vary between groups of workers (e.g., in some countries, fewer women own smartphones[130] and some may only have feature phones that do not permit internet access[131]). Furthermore, owning a smartphone does not necessarily equate to the ability to meaningfully use it. For instance, migrant workers may not be able to afford regular data access.[132] Migrant workers may have restricted time for access due to long work hours under employer surveillance, and domestic workers and others may have their phone confiscated by their employer.[133]

Design of digital tools should respond to the barriers to access faced by migrant workers generally or certain groups of workers in particular. Relevant considerations may include:

- Ensuring ease of use and a simple, inviting interface, potentially utilizing or mirroring messaging applications and other platforms that workers already know how to use;
- Potentially preferencing web-based platforms over apps which require users to take the extra step of downloading the app to their device in order to access the platform;
- Configuring apps in the user's language (which can be done automatically where the app detects the language in which the phone is configured) and ensuring that the app is available through the app store of the migrant worker's home nationality as well as country of employment;[134]
- Using voice-based technology to facilitate access for workers with low levels of literacy;[135]
- Designing for accessibility,[136] such as ensuring there are options to make text bigger for visually-impaired users and ensuring sufficient contrast between text and background;
- Designing for multiple user interfaces, e.g., complementing online chat or review functions with text, phone, and other platforms to help facilitate access for workers with low literacy or digital capacity, or those without access to a smartphone or data;[137]

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128 See e.g. Latonero et al, *Technology and Labor Trafficking in a Network Society*, 8; The Economist, *The Inclusive Internet Index 2018: Executive Summary* https://theinclusiveinternet.eiu.com/assets/external/downloads/3i-executive-summary.pdf; Pew Research Center, "Internet/Broadband Fact Sheet," February 4, 2018 http://www.pewinternet.org/fact-sheet/internet-broadband/; Pew Research Center, "Digital Divide Persists Even as Lower-Income Americans Make Gains In Tech Adoption," March 22, 2017 http://www.pewresearch.org/fact-tank/2017/03/22/digital-divide-persists-even-as-lower-income-americans-make-gains-in-tech-adoption/; J Thomas et al, *Measuring Australia's Digital Divide: The Australian Digital Inclusion Index 2017*, RMIT University, www.dx.doi.org/10.4225/50/596473db69505.

129 See e.g. Pew Research Center, "Mobile Fact Sheet," February 5, 2018, http://www.pewinternet.org/fact-sheet/mobile/.

130 Pew Research Center, *Smartphone Ownership and Internet Usage Continues to Climb in Emerging Economies But Advanced Economies Still Have Higher Rates of Technology Use*, February 22, 2016, 6 http://assets.pewresearch.org/wp-content/uploads/sites/2/2016/02/pew_research_center_global_technology_report_final_february_22__2016.pdf. Similarly, writing in 2010, the GSM and Cherie Blaire Foundation for Women estimated that women are 21% less likely to have a mobile phone than men: GSMA Development Fund, *Women & Mobile: A Global Opportunity: A Study On The Mobile Phone Gender Gap In Low And Middle-Income Countries* (2010) https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2013/01/GSMA_Women_and_Mobile-A_Global_Opportunity.pdf.

131 Toby Shapshak, "Feature Phones Still Rule In Africa, As Smatphone Sales Slow," *Forbes*, March 28, 2017 https://www.forbes.com/sites/tobyshapshak/2017/03/28/feature-phones-still-rule-in-africa-as-smartphone-sales-slow/#7df5771b60e5.

132 Ticona, "New Apps Like Jornalero Aim to Protect Low-Income Workers. Here's How They Could Backfire."

133 Sun Jue, "Her Voice in the Making: ICTs and the Empowerment of Migrant Women in Pearl River Delta, China," *Asian Journal of Women's Studies* 22 no. 4 (2016): 509 https://doi.org/10.1080/12259276.2016.1242947 citing Jack Linchuan Qiu, "'Power to the People!': Mobiles, Migrants, and Social Movements in Asia," *International Journal of Communications* 8 (2014) http://ijoc.org/index.php/ijoc/article/view/2076.

134 E.g. the Fair Work Ombudsman's Record My Hours app is available by searching the China-based App store for Chinese users in Australia.

135 E.g. worker survey tools.

136 Laura Kalbag, *Accessibility For Everyone* (A Book Apart, 2017) https://abookapart.com/products/accessibility-for-everyone.

137 E.g. Issara's Inclusive Labour Monitoring System / Golden Dreams; My Labor Matters; Contratados.

- Permitting content to be downloaded and accessed offline to accommodate workers who have uneven access to data;[138]
- Ensuring compatibility with different types of phones and operating systems, with a preference for Android operating systems which are far more prevalent than iPhones;[139]
- Ensuring functionality of the app does not compromise battery life;[140]
- Ensuring the app's size does not compromise the user's phone storage capacity, and that the app does not use excessive amounts of data unnecessarily; and
- Balancing advantages of regular updates with limited access to Wi-Fi, data cost implications, and limited phone storage capacity.

There may also be a role for states in facilitating migrant workers' access to technology. Regulations can mandate standard terms in migrant worker contracts that guarantee the worker's access to their phone and other technology during the employment period. Such laws can address a barrier that is particularly acute for domestic workers whose phones may be confiscated by their employers or seafarers who may not have mobile phone reception.[141]

The intersection between cultural factors and gender may present further barriers that need to be understood by developers. For example, some platform hosts have observed the need to invest extra effort in ensuring that women participate in worker surveys in countries where there is a cultural bias against their participation.[142]

Conditions that appear to encourage uptake and repeat engagement

There are a number of conditions that appear to encourage migrant workers' use and repeat engagement with digital platforms (though this may not necessarily include the most marginalized members of a migrant worker community). These conditions include:

- Enabling and adding value to activities migrant workers are already motivated to undertake. For example, helping to scale and provide a more effective and safer platform for worker organizing that is already happening offline or in other forums,[143] or (beyond the scope of this report) providing channels for remittances or direct recruitment that could enable workers to conduct these transactions more easily, quickly, cheaply, and/or safely;[144]
- Embedding digital initiatives in community relationships, and/or bundling them with the provision of emotional support and connection to home, possibly underpinned by social media;[145]
- Incorporating high levels of offline support to ensure accessibility or providing the opportunity to receive related services such as individual advice and assistance;[146]
- Using digital initiatives to engage workers in offline advocacy or broader campaigns;[147]
- Providing workers with an unrelated immediate tangible benefit, e.g., being monetarily compensated for using a platform;[148]
- Ensuring functionality and design are directed to the needs of the workers rather than the needs of the platform hosts (e.g., prioritizing worker outcomes and needs over a platform host's desire for particular worker data);

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138 E.g. Shuvayatra; Just Good Work.

139 In one quarter of 2016, 81.7% of smartphones sold globally ran Android, whereas only 17.9% ran iOS (the iPhone operating system): "Gartner Says Worldwide Sales of Smartphones Grew 7 Percent in the Fourth Quarter of 2016," Press Release, Egham, UK, February 15, 2017, https://www.gartner.com/newsroom/id/3609817.

140 E.g. Record My Hours uses complex optimised battery-friendly strategies to automatically record when a user is at work; this required the integration of techniques including weighted location metrics of wifi access points in conjunction with battery-efficient geofencing to fine-tune GPS polling frequency.

141 International Labor Rights Forum, *Taking Stock*, 50.

142 Heather Canon (ELEVATE) in discussion with the authors, July 2018.

143 E.g. WorkIt is a "natural extension of what our members are already doing": Andrea Dehlendorf (Organization United for Respect) in discussion with the authors, July 2018.

144 E.g. eSewa by F1Soft International (https://esewa.com.np/#/home) and NOW Money (http://nowmoney.me/).

145 E.g. Golden Dreams seeks to provide workers with news and gossip from home for a "smooth and enjoyable user experience": *Golden Dreams: Technological Innovation to Empower Workers and Eliminate Human Trafficking In Global Supply Chains* (2017) https://docs.wixstatic.com/ugd/5bf36e_3e603529513746c5a8f3da91b45aec0c.pdf; Shuvayatra provides Nepali workers with local radio podcasts from Nepal. Migrant workers (and migrants and refugees more generally) use ICTs to maintain and enhance transnational familial ties, overcome social isolation, and improve their social well-being and connectivity: see e.g. Sun Sun Lim, Tabea Bork-Hüffer and Brenda SA Yeoh, 'Mobility, Migration and New Media: Manoeuvring Through Physical, Digital and Liminal Spaces,' *New Media & Society* 18 no. 10 (2016): 2148; Wenli Chen and Alfred Siu Kay Choi, "Internet and Social Support Among Chinese Migrants in Singapore" *New Media & Society* (2011) 13: 1067-8; Joong-Hwan Oh, "Immigration and Social Capital in a Korean-American Women's Online Community: Supporting Acculturation, Cultural Pluralism, and Transnationalism" *New Media & Society* (2016) 18: 2224.

146 E.g. Contratados.

147 E.g. WorkIt.

148 E.g. Laborlink; GeoPoll.

- Minimizing time and effort required on the part of the user;[149] and
- Providing instant gratification through visible "likes" or notifications that a user's contribution has been useful to the community.[150]

Workers' repeated engagement with a digital tool is highly dependent on their trust in the platform and the host. Trust may be cultivated by past positive experiences of engagement by the user or others with whom the user is in contact, and through other community connections, via social media groups or the provision of offline social support, as discussed above. In the context of worker reporting tools for businesses in supply chains, a response to workers' input by an employer or lead firm creates trust that results in further increased information-sharing by workers.[151] This in turn, leads to greater reliability and quality of information that improves a company's ability to make evidence-based decisions.[152]

Conversely, of course, negative experiences will discourage further use. These may be due to technical difficulties, the provision of information that is out-of-date or inaccurate, a failure to meet expectations of outcomes from previous use,[153] or unexpected sharing or use of the worker's data. Uptake of a new platform or survey may also be inhibited by "research fatigue" where workers have been interviewed too many times, or by "application fatigue" and related confusion due to the large number of tools on the market.

Inclusive design process with migrant workers

Digital tools for migrant workers are likely to have greatest uptake and benefit when they are designed through a collaborative, iterative process involving migrant workers, advocates, and platform designers. However, in the absence of factors that encourage uptake and repeat engagement, a worker-focused design process may not in itself enhance uptake. Some commentators observe that the non-profit sector may romanticize worker engagement in a design process and underestimate the value of identifying technology to meet a critical identified need and following design principles that have been demonstrated to have broad appeal and enable easy, intuitive use.[154] Appropriate sampling of migrant workers is important in the consultation process, but like everyone, migrant workers may not be able to accurately predict what others like themselves will use. They may want (or need) to use the tool in ways the initiative did not originally contemplate, indicating the need for ongoing consultation and regular user testing beyond the design phase.[155] Regardless of levels of consultation concerning uptake, participatory design processes with migrant workers *and* digital security experts are necessary to identify and address the risks posed by new forms of technology.

E. Sustainability and scalability of digital tools

Platforms designed for civil society

Inadequacy of short-term seed funding

Numerous non-profit organizations have cited funding as a key challenge, observing that digital initiatives designed to address complex social problems often require not only substantial time and money to get started, but also ongoing funding for iterative development over many years. Donors and investors may be willing to provide seed funding to develop promising initiatives, on the assumption that they will be successful within a year or two. Indeed, as the Migration Policy Institute has observed, there is an emerging trend among governments, the private sector, and civil society to hold hack-a-thons and other open competitions to solve a particular challenge, in which shortlisted ventures receive support to develop their ideas and a potential prize of further funding. They note that "[these] competitions risk contributing to the "pilot and crash" phenomenon, by which new programs keep being introduced but then cannot find the long-term financial support they need."[156] Hackathons

[149] E.g. Once Record My Hours is activated, it provides automated location and time recording functions that do not require further user action or input.
[150] Zara Rahman (The Engine Room) in discussion with the authors, July 2018.
[151] Dr Lisa Rende-Taylor (Issara Institute) in discussion with the authors, July 2018.
[152] Ibid.
[153] Zara Rahman (The Engine Room) in discussion with the authors, July 2018.
[154] Dr Carmen Rojas (The Workers Lab) in discussion with the authors, July 2018.
[155] Maria Figueroa (Cornell University) in discussion with the authors, July 2018; Zara Rahman (The Engine Room) in discussion with the authors, July 2018.
[156] Meghan Benton and Alex Glennie, *Digital Humanitarianism: How Tech Entrepreneurs are Supporting Refugee Integration*, TransAtlantic Council on Migration, Migration Policy Institute, October 2016, 18-19 https://www.migrationpolicy.org/research/digital-humanitarianism-how-tech-entrepreneurs-are-supporting-refugee-integration.

carry the further risk that technologists design platforms without a deep understanding of the structural forces driving the problem and the concerns and vulnerabilities of potential migrant worker users.[157]

In reality, few digital initiatives are successfully operational within the first two years and require longer timeframes for exploration and potential failure, and for iterative development to improve effectiveness. Lack of longer-term funding restricts organizations' capacity to monitor how users are interacting with the platform and undertake ongoing user testing, evaluation, and iterative improvements. It also leaves organizations without the resources necessary for ensuring the ongoing accuracy and reliability of information provided through content and technology updates, and security audits.

Unforeseen resourcing implications for the platform host

Successful technological interventions often add to organizational workload where there is no provision of extra funding for staff. Similarly, these initiatives often depend upon the ongoing close management and curation of online and social media content, such as responding to inquiries via comments and direct messages, deleting inappropriate or dangerous content, and publishing and pushing out content. This often requires dedicated and specially trained staff. Organizations face financial risks in relation to these costs that may not have been adequately anticipated and budgeted.

At the same time, organizations looking to retire an initiative that is no longer effective, safe or sustainable require resources to do so in a responsible and respectful way.[158] Some relevant considerations here may include:

- Providing ways for users to export their data from the application in a reusable format, with sufficient notice;
- Informing users of other apps that play similar functions;
- Leaving the code well-documented and open source, to enable others to use it in the future;
- Documenting and publicizing the reasons for which the initiative was discontinued to allow others to learn from the experience; and
- Clearly labelling when an initiative has ceased to operate.

Monetization and other sources of longer-term funding: Ethical concerns

As a result of these longer-term funding challenges, a number of non-profits have considered monetizing their platforms. Monetization may provide a promising path to longer-term independent sustainability. At the same time, it raises a range of ethical and practical considerations for organizations striving to ensure that monetization is values-aligned.[159] For example, some platforms may generate revenue by providing exposure to their users through advertising or by offering recruitment or job board services. This raises significant considerations in relation to the quality of employers, jobs or services promoted to users and their apparent endorsement by the platform that users trust. Other platforms may charge users for certain levels of access, or create a membership model, although this model may not appeal to organizations that prioritize transparency of information and equity of access. Monetization may also be achieved through the sale of aggregated user data or analysis, raising ethical concerns in relation to informed worker consent regarding the use of their data, the appropriateness of data sharing with certain recipients, and general privacy and data security considerations. Another option may be to sell the digital platform itself to a corporation, though some organizations may decline to do so on the basis that it is not values-aligned.[160]

Some platforms established with philanthropic capital are creating revenue by selling a version of their platform to other civil society organizations or unions, or consulting with other organizations looking to establish a similar platform.[161] This monetization strategy has limited downsides for the platform host and, if the platform is effective, it enables a greater number of workers and others to benefit from the work invested and lessons learned by the host. However, the platform will only be

[157] Mark Latonero and Zachary Gold, "Data, Human Rights & Human Security: Primer," Data & Society Research Institute, June 22, 2015 https://datasociety.net/pubs/dhr/Data-HumanRights-primer2015.pdf.

[158] Zara Rahman (The Engine Room) in discussion with the authors, July 2018. An example of effective termination of an initiative is Amnesty's Panic Button application: see Tanya O'Carroll, Danna Ingleton and Jun Matsushita, "Panic Button: Why We Are Retiring The App," The Engine Room, September 1, 2017 https://www.theengineroom.org/panic-button-retiring-the-app/.

[159] Rachel Micah-Jones (Centro de los Derechos del Migrante, Inc.) in discussion with the authors, July 2018.

[160] Andrea Dehlendorf (Organization United for Respect) in discussion with the authors, July 2018; Rachel Micah-Jones (Centro de los Derechos del Migrante, Inc.) in discussion with the authors, July 2018.

[161] E.g. Contratados and WorkIt.

available to a limited number of "first movers" and will have a limited lifespan as the market for those interested in using the technology becomes saturated or superseded.

For some platform hosts, monetization may be preferable to external funding that may compromise the organization's ability to remain independent in its mission and activities. This may be a more significant concern for organizations that undertake worker organizing, as opposed to service providers with more predictable and defined activities that can be agreed upon with a donor at the outset.[162]

Platforms designed for business

Platforms designed for business have generally started as commercial ventures from the outset or have been developed through philanthropic funding with a view toward subsequent commercialization. These include purpose-designed versions of platforms for particular companies (or unions) or tools that clients can incorporate into broader corporate auditing, human resources, and risk management. The commercial rationale for digital worker engagement initiatives in the supply chain context is that companies (whether buyers or suppliers) will pay for these tools and related services because they deliver a range benefits (see "The business case for worker reporting tools" in Section II). If the tools effectively provide information from workers about their recruitment and working conditions, the tools can assist businesses to better meet the expectations of investors, buyers and/or consumers that they adopt measures to avoid exploitative labor practices within their supply chains, and comply with legal due diligence obligations. This can help businesses avoid significant financial and reputational risks. There may also be incentives for governments to develop, finance, and use these tools to make evidence-based procurement decisions[163]or to obtain better data for labor and trafficking investigations and enforcement activities.[164]

As discussed in Section II above, a number of companies have begun to make significant investments in this space, as are a small number of venture capital funds such as the Working Capital Fund, established by Humanity United in January 2018 to invest in early stage ethical supply chain innovation. However, despite these investments, the market at present is largely driven by public and private donors.

Companies that develop and supply digital worker engagement tools face a number of ethical and practical challenges in relation to their relationships with their clients and other potential revenue sources. There may be ethical considerations where the platform content and design are solely determined by a client or purchaser whose needs do not align with those of migrant worker users. This could occur, for example, where the type of information sought is not likely to adequately capture exploitative recruitment or working conditions, or there is not a genuine commitment to meaningfully respond to the information collected by reforming practices or providing remediation. For this reason, as discussed in Section II, some platform developers will only supply their platform to clients that will use the data to improve conditions for migrant workers and have a demonstrated commitment to addressing worker safety issues.[165] Others suggest that engaging with businesses that do not have a strong proven track record or limited leverage over suppliers can sometimes be worthwhile to help steer those businesses to adopt improved practices and programs in the future. A further challenge is that it is often difficult to promote ownership of worker engagement tools where they may have the strongest impact, such as among suppliers in the lower tiers of supply chains.[166] Even among those businesses with a commitment to worker protection, client demands to reduce costs may constrain the services that the platform host can provide. This can potentially compromise the quality of the data and depth of migrant worker engagement and outcomes under circumstances in which the platform host has limited negotiating leverage with the potential client. Indeed, some observe that a "pricing race to the bottom amongst digital worker engagement providers" may limit the support that providers can deliver to assist companies to respond to worker feedback after it is collected.[167] There may, therefore, be a tradeoff between the financial sustainability and scalability that a client-driven revenue model presents, and the flexibility and control over the content and impact of a platform that comes with philanthropic funding.[168]

[162] Andrea Dehlendorf (Organization United for Respect) in discussion with the authors, July 2018.
[163] Samir Goswami (Samir Goswami LLC) in discussion with the authors, July 2018.
[164] Anonymization of data reduces its value for law enforcement which may consider it informative rather than actionable for the purpose of prosecution.
[165] Stephen Lee (Caravan Studios) in discussion with the authors, July 2018.
[166] Antoine Heuty (Ulula) in discussion with the authors, July 2018.
[167] Dr Lea Esterhuizen (&Wider) in discussion with the authors, July 2018.
[168] Dan Viederman (Humanity United) in discussion with the authors, July 2018.

The roles of investors and donors

Many of the initiatives described in this paper are still in early stages, and most rely on donor funding or subsidization. Donors therefore have significant capacity to shape the way in which new platforms are established and existing platforms evolve. For a start, in determining their grants to platform hosts, donors can require the location of new digital initiatives within a theory of change that includes demonstrated outcomes for workers, and support the development of methodologies for identifying and measuring worker outcomes within their grants. Requiring platform hosts to set out a "theory of harm," as discussed above, would demonstrate that a funder values and requires responsible data collection. This would need to be accompanied by appropriate timelines—and funding—for careful consideration and monitoring of risks.[169] There is also a need for funding beyond the start-up phase for ongoing user testing, updating, and iterative development of digital platforms over time, recognizing that that few digital initiatives are successful in their early stages. Security of longer-term funding makes it possible for platform hosts to identify and acknowledge risks and problems that need to be addressed, rather than marketing the success of their platform in order to obtain further funding.

DONORS RISK SUPPORTING THE PROLIFERATION OF PLATFORMS THAT ARE INADEQUATELY FOCUSED ON WORKER PROTECTION AND OUTCOMES.

Donors also have leverage to influence the broader digital landscape for migrant workers. In order to achieve longer-term commercial sustainability of worker engagement platforms, donors can support the development of legal frameworks that compel companies to invest in effective worker engagement within programs to address forced labor and modern slavery. At the same time, donors can assist developers to strengthen the business case for worker engagement tools as discussed in Section II. Donors can also support digital initiatives to extend their reach to groups of workers who are currently largely excluded from worker engagement efforts, including migrant workers working below the highest tier of supply chains, workers on remote or isolated worksites, domestic workers (who may not have access to phones), and other migrants working in industries outside of multinational supply chains.

Finally, donors need to recognize the substantial risks they carry in funding digital platforms in this area. At a practical level, the provision of early-stage grants without sufficient longer-term funding creates a significant risk that either the platform will fail and end, or will continue with deep problems.

More seriously, donors carry a risk of funding an ill-considered platform that causes harm to workers. Donors also risk supporting the proliferation of platforms that are inadequately focused on worker protection and outcomes. Workers who have unsatisfying or harmful experiences with those platforms may be reluctant to engage with better platforms and programs in the future. Donors could mitigate these latter risks by collectively establishing standards on migrant worker empowerment and responsible data practices, including "theory of harm" screens, with a view to integrating these into grant agreements.

[169] Zara Rahman (The Engine Room) in discussion with the authors, July 2018; Dr Mark Latonero (Data & Society) in discussion with the authors, July 2018.

V. CONCLUSION

Digital worker engagement platforms are ameliorating information asymmetries, empowering migrant workers and driving systemic reforms in at least five new ways. **First**, these digital platforms are enabling migrant workers, service providers, and business to undertake activities they are already engaged in, but more quickly, cheaply, efficiently and, sometimes, more safely. For example, the Australian Fair Work Ombudsman's Record My Hours app provides an automated geofencing functionality to enable workers to securely and automatically document their working hours at a particular worksite.

Second, digital platforms allow organizations to engage with workers at unprecedented scale. For example, worker reporting tools within the supply chain context are enabling suppliers and buyers to engage with tens of thousands of workers across a workforce.

Third, technology is enabling people to do things that were previously impossible. For instance, CDM's Contratados platform allows for the sharing of knowledge and experiences among workers from different home villages working in different locations across the US who were previously unconnected. Significant advancements in technology itself are also making new activities possible and extending the realm of possibilities for low-income migrant workers. These include, for example, the ubiquitous penetration of smartphones that are becoming more affordable with improved features. Further relevant developments not covered in this report include the use of blockchain in migrant contract verification, payment systems and supply chain tracing, the use of biometric technology to register a migrant worker's presence at a worksite, and developments in relation to digital ID.[170]

Fourth, by expanding the realm of possible action by migrant workers, technology can lead to broader structural and policy change. For example, having empowered migrant workers with information to make informed choices about who they work for through Contratados, Centro de los Derechos del Migrante is considering consequences for their advocacy for visa portability that would enable migrant workers to change employers in the country of employment while remaining on the same visa.[171]

Fifth, technology enables organizations to undertake their core activities in fundamentally different ways. For example, OUR's WorkIt app facilitates a new approach to worker organizing that is primarily online, potentially transforming the offline work of traditional worker organizing into support for the online platform and training of online organizers.

Legislators and industry groups are recognizing that worker engagement platforms offer tremendous potential but also have a number of significant limitations and pose new risks to workers. This report has explored a range of practical, ethical, and legal challenges associated with digital tools for migrant workers that warrant deeper consideration. Many of these challenges do not have the same solution in all contexts, but rather reveal a range of tradeoffs between competing desirable ends. For example, there may be tradeoffs between the ability to offer workers individual outcomes and remedies, and the desire for data at scale. Similarly, obtaining data at scale may lie in tension with the depth, quality, and subsequent cost of data obtained through a greater degree of human engagement with each worker. Protection of migrant worker privacy and security through anonymous engagement with a digital technology initiative may be at odds either with the ability to provide individual outcomes for workers, or with the

[170] Dan Viederman (Humanity United) in discussion with the authors, July 2018.
[171] Rachel Micah-Jones (Centro de los Derechos del Migrante, Inc.) in discussion with the authors, July 2018.

verifiability of data obtained. Maximizing uptake may require design features that foreground workers' priorities at the cost of other outcomes desired by the platform host. Ensuring truly informed consent on the part of workers may inhibit ease of access and uptake. Finally, the commercial viability or monetization of a platform may limit the capacity to provide individual worker remedies or obtain data on egregious labor violations where this does not appeal to purchasers.

TECHNOLOGY'S TRANSFORMATIVE POTENTIAL WILL ULTIMATELY BE REALIZED THROUGH RESPONSIBLE AND WELL-CONSIDERED APPROACHES THAT RESPOND TO MIGRANT WORKERS' VULNERABILITIES AND THE STRUCTURAL DRIVERS OF EXPLOITATION.

The initiatives profiled in this report demonstrate that digital technology offers unprecedented and amplified opportunities for migrant worker engagement, empowerment, and justice. However, technology cannot fix structural inequalities, missing institutional capacity or a lack of human intent.[172] Indeed, worker engagement platforms will rarely, if ever, fix a problem quickly or in isolation. Technology's transformative potential will ultimately be realized through responsible and well-considered approaches to the funding, development, and implementation of platforms that respond to migrant workers' vulnerabilities and the structural drivers of exploitation. Effective initiatives will be those that are integrated with strong offline programs with a well-conceived theory of change to deliver meaningful outcomes to migrant workers.

[172] Kentaro Toyama, "Technology as Amplifier in International Development," iConference 2011, February 8-11, 2011, Seattle, WA, 1 http://www.kentarotoyama.org/papers/Toyama%202011%20iConference%20-%20Technology%20as%20Amplifier.pdf; see also Kentaro Toyama, *Geek Heresy: Rescuing Social Change from the Cult of Technology* (New York: PublicAffairs, 2015) ProQuest eBooks Collection.