Crowdsourcing as a Platform for Digital Labor Unions

2 authors, including:

Payal Arora
Erasmus University Rotterdam
54 PUBLICATIONS   **317** CITATIONS

Some of the authors of this publication are also working on these related projects:

Project   Mobile internet and social inequality View project

Project   Data and the South View project

Crowdsourcing as a Platform for Digital Labor Unions

PAYAL ARORA
LINNEA HOLTER THOMPSON
Erasmus University Rotterdam, The Netherlands

Global complex supply chains have made it difficult to know the realities in factories. This structure obfuscates the networks, channels, and flows of communication between employers, workers, nongovernmental organizations and other vested intermediaries, creating a lack of transparency. Factories operate far from the brands themselves, often in developing countries where labor is cheap and regulations are weak. However, the emergence of social media and mobile technology has drawn the world closer together. Specifically, crowdsourcing is being used in an innovative way to gather feedback from outsourced laborers with access to digital platforms. This article examines how crowdsourcing platforms are used for both gathering and sharing information to foster accountability. We critically assess how these tools enable dialogue between brands and factory workers, making workers part of the greater conversation. We argue that although there are challenges in designing and implementing these new monitoring systems, these platforms can pave the path for new forms of unionization and corporate social responsibility beyond just rebranding.

Keywords: crowdsourcing, outsourced labor, new media technology, transparency, labor, digital unions, corporate social responsibility

Economic globalization and digital communication tools have enabled companies to go transnational (Nash, 2010). This includes moving manufacturing to developing countries, often based far from the companies' original headquarters. For example, a clothing brand might produce its clothes in several factories in different countries, creating a complex and spread-out supply chain. This creates the difficult task of ensuring proper working conditions for all workers, especially with pressure to produce as cheaply and quickly as possible (Delaney & Connor, 2016). Factory audits are the traditional method for companies to ensure that working conditions are fair. These entail representatives from companies, governments, or nongovernmental organizations (NGOs) visiting factories. However, given the persistence and scale of unfair treatment of workers in developing countries, these monitoring practices are seen as limited in their ability to detect and prevent many of the violations still experienced (S. Chen, Zhang, & Zhou, 2015; Danish Institute for Human Rights & CSR Centre Bangladesh, 2016; U.S. Department of State, 2015).

Payal Arora: arora@eshcc.eur.nl
Linnea Holter Thompson: linnea.holter@gmail.com
Date submitted: 2017–11–28

New information and communication technologies offer the potential to pioneer scalable, digital solutions (Nash, 2010), where workers can be included in the information loop. This way it is possible to create more transparency in supply chains, as the tools enable interaction directly with workers. The development of digital monitoring systems for reports on working conditions gives workers access to a channel to give meaningful information to NGOs, governments, and companies. In addition, these tools can be designed in such a way that they can share information with workers, giving them more knowledge about their rights and responsibilities. Digital monitoring systems can also enable companies to better report on conditions in their supply chain, as this is increasingly being expected of them (Aaronson & Wham, 2016). Digital tools enable workers to gather information about their rights as well as share their grievances with companies with ease. In addition, they allow for more direct and faster communication between companies, NGOs, and governments, which can result in a quicker response and possible positive impact at the factory level.

Previous research has portrayed the array of positive changes and development that comes with the rise of technology, especially as the access to mobile phones and the Internet exponentially rises among low-income people in developing countries (Greene & Mamic, 2015; Kaka, Madgavkar, Manyika, Bughin, & Parameswaran, 2014; Vodafone Group Plc, 2013). However, sustainable change depends on how we address the diverse challenges that come with implementing technology solutions. There is much to consider, such as design, motivation to participate, digital literacy, and use of obtained information (Greene & Mamic, 2015; Hilbert, 2011; Islam & Grönlund, 2011; Puspitasari & Ishii, 2016). Few studies, however, have focused on using new media technologies for digital representation and engagement with outsourced laborers, particularly in developing countries. Outsourcing is the move of labor, such as manufacturing, to a third party. In the textile industry, it is common to outsource offshore, which means that the third party is placed in a different country far away. This is often done to save costs (Overby, 2017) so brands have access to low-skilled laborers working for low pay. Compared with subcontracting, the outsourcing practice and discourse are more embedded in the global exploitation of labor because of its historical and structural nature. Crowdsourcing in recent years has proven to be an effective mechanism to harness collective intelligence and initiative (Hosio, Goncalves, Kostakos, & Riekki, 2015). However, there is limited scholarship on how this tool can have a positive impact on accountability systems concerning long-exploited laborers in developing countries while simultaneously encouraging corporate social responsibility and strengthening supply chain management.

In this article, we address this gap by analyzing key case studies that experiment with crowdsourcing tools for brand and worker dialogue. This article gauges the extent to which workers can take an active part in shaping the industry and their workplaces by becoming visible through the use of crowdsourcing tools. In other words, this study examines how these tools can increase the collective agency of workers. Furthermore, we critically assess how companies can use mobile technology and the Internet to gather real-time information directly from workers to foster better working conditions. Through this study, we argue how crowdsourcing can nudge brands to make systemic changes for better working conditions. In doing so, we argue for new forms of digital unionization to create systemic change in the labor movement of the 21st century.

Theoretical Framework

Crowdsourcing and the Potential of Digital Communication for Social Change

Much research has been conducted over this decade on crowdsourcing. This includes leveraging on the "wisdom of the crowd" to gather information and problem solve (Brabham, 2008), create business innovation (Schweitzer, Buchinger, Gassmann, & Obrist, 2012), and influence policymaking and urban planning (Prpić, Taeihagh, & Melton, 2015). For example, Hildebrand, Ahumada, and Watson (2013) investigated how social media and crowdsourcing were used to engage the public to formulate the challenges and come up with solutions related to AIDS. The United Nations (UN) recognized the timeliness of young people using communication technology to institute social change across the globe. This propelled the organization to generate the first strategy document through crowdsourcing in the history of the UN. By using social media and crowdsourcing, the UN was able to get "grassroots perspectives" (Hildebrand et al., 2013, p. 68) into the high-level policy process.

Similarly, cases such as Ushahidi, a crowdsourcing platform first developed for people to report violence during the elections in Kenya, have been researched to expand understanding of how these new tools monitor social movements and protests across global contexts (Thigo, 2013; Wachanga, 2012). Scholars have discussed how ICTs can be used for socially emancipatory purposes. Solutions for citizens' involvement in African politics, Ushahidi and Huduma, claim that ICTs create new possibilities for political engagement in spaces not run by institutions or regulated by authority. These spaces facilitate new ways of collective action and give a platform to different voices by challenging existing distributions of power. On the flip side, ICTs can increase the capacity of authorities as well, as they are able to more easily provide information and resources to citizens. This demonstrates how companies and governments can use crowdsourcing tools to provide information to their stakeholders and deal with increased pressure for transparency. Although new technologies promise social transformation, they also raise the question of their actual impact. As with crowdsourcing tools for increasing laborers' agency, it is worth being cautious about the level of effect they can have. There are issues that cannot be solved merely through improved communication. However, as Thigo (2013) argues, these tools can contribute to breaking the silence and expressing unfair treatment and human rights violations.

In the last decade, numerous studies have emerged to demonstrate crowdsourcing as a method to engage the public in businesses, social movements, and public policy; however, there continues to be a gap in research on how crowdsourcing can be used to foster new forms of digital labor unionization. There is an urgent need to explore alternatives as brands "race to the bottom," reducing the state of working conditions and rights with the spread of globalization (M. Chen, 2017). However, the quality of information relies on the design of these crowdsourcing tools. The tools must be available for everyone, regardless of the Internet connection, phone type, or place of work to have a bottom-up impact (Zuchowski, Posegga, Schlagwein, & Fischbach, 2016).

Access to technology needs to be complemented with engagement to enhance the agency of workers. The field of development communication has documented numerous studies on edutainment with radio and television over the decades, in which the message needs to be disseminated in an engaging

manner to trigger reflection and change (Rogers, 1976; Singhal & Brown, 2018). Choudhury (2011) argues that development communication can be "defined as the use of community to promote development" (p. 3). However, communities do not just exist. They need to be created and sustained, and engaging communication can enable this endeavor.

Unlike prior technologies, social media allow entire communities to interact with one another, learn, and mobilize collectively to make change in their lives. This type of interactivity is central to the design of crowdsourcing tools for social change as both workers and brands need to participate in gathering data and creating content for these tools to have an effect. The messages should be designed in such a way that they transform people's behavior and improve their life quality.

Monitoring Outsourced Labor in the Global and Digital Era

Previous research on monitoring practices (Doorey, 2005) has argued how the costliness and feasibility in evaluating several factories in a compressed time make for significant barriers. After all, physical audits are not scalable. However, with new digital solutions, one can collect real-time data from several factories and workers simultaneously. The scalability of digital crowdsourcing tools contributes to reducing the costs and eliminates the issue of not being able to be in several places at once.

This trend synchronizes with the rise of global and digital labor. Globalization, the "increasing global interconnectedness" (Nash, 2010, p. 43), has been happening for the last few decades. This includes the rise of transnational networks, such as the move of manufacturing operations to developing countries. It has been an engine for economic growth in developing countries (Szirmai, 2012), and China serves as a great example for how the manufacturing industry can boost a country's economy. However, international trade has affected the transparency in supply chains. There is pressure to produce cheap and fast, which in turn can, and often does, create violations of workers' rights (Delaney & Connor, 2016).

In addition, there is a big informal economy with nonregistered workers, as well as subcontracting, which makes it even more difficult to detect issues and improve conditions. Given that production is outsourced to many factories around the world, traditional monitoring practices such as factory visits are often insufficient (S. Chen et al., 2015). This is where digital tools such as crowdsourcing platforms can potentially make an impact by detecting exploitation of workers.

Although globalization can have a negative impact on workers' rights, globalization also represents "the development of new information technologies" (Nash, 2010, p. 45), which brings the world closer together. Social media networks (e.g., blogs, Twitter, WhatsApp, and Facebook) are creating "apparently endless new possibilities for mediated interaction" (Nash, 2010, p. 45). Bringing workers into the communication loop can make the interaction among laborers, brands, and the public visible, possibly improving working conditions by making it harder for companies to ignore violations. However, we need to be cautious with our enthusiasm. The fact remains that although new communication tools might increase awareness of exploitation, without functioning local law enforcement, factory management can continue to violate workers' rights without repercussions (Tsay, 2014).

Design According to Workers' Digital Literacy

Doorey (2005) suggests that a preferred option for more transparency in supply chains is to create local solutions that can empower the actors in developing countries. Workers should be involved in the data-collection process and have a say when it comes to how this information is used. However, there are challenges when implementing digital solutions for this data-collection process. The design of the system needs to be developed so that it fits with the local context and is user-oriented. We must address the costs related to accessing the system to share information. In addition, we need to recognize the prevalence of low literacy rates among the target audience. Most important, workers must have trust and an incentive to use the system. We cannot underestimate the power of being motivated so that workers will continue giving information about their conditions (Greene & Mamic, 2015).

Thus, for crowdsourcing tools to be able to gather real-time and reliable information from workers, they must be designed according to the users' digital literacy levels. This is a challenge as factory workers are in diverse situations, in different countries and societies where the ability to access and use technology varies. Islam and Grönlund (2011) point out that factors such as age, income, and education level can affect the use of technology. Although access may be widespread, ownership and use may differ. Voice communication, such as calling, is used most and is most effective according to their study on mobile use of Bangladeshi farmers. Puspitasari and Ishii (2016), in their research in Indonesia, also note that access to technology is not the core issue. Workers' ability to use different tools such as the mobile Internet is a critical factor.

This underlines the need to first assess the local conditions, skills, and motivations on access and use to be able to design an effective platform that enables workers to share relevant information on rights and responsibilities. This may result in more accurate and valid information for users as they learn to use the system correctly. One must also keep in mind the differences between men and women, and that access to digital technology is lower for women because of their disadvantageous position in society when it comes to employment, education, and income (Hilbert, 2011). Nonetheless, ICTs come with opportunities for communication and education, and with the right incentives, can be tools for women to fight the current inequalities they experience in society. This underlines the importance of ICT training and user-friendly platforms to make sure workers are able to use the systems effectively to make their voices heard.

Cases, Method, and Data Collection

Overview of Cases

This study is based on our analysis of three cases: LaborVoices,[1] Better Factories Cambodia's Outstanding Worker project,[2] and QuizRR.[3] The cases were chosen to understand the phenomena of crowdsourcing for social good: how crowdsourcing can be a useful method for laborers to increase their

---

[1] https://www.laborvoices.com/

[2] https://betterwork.org/blog/2016/11/03/smart-phones-smart-workplaces/

[3] https://www.quizrr.se/

agency. Although the cases are not representative of perfect crowdsourcing platforms for mitigating labor exploitation, they were chosen for their ability to represent systems that actively reach out to factory workers while gathering information on knowledge levels and working conditions. Furthermore, the cases give insight to different ways of operation.

Outstanding Worker is a crowdsourcing project run by the nonprofit organization Better Factories Cambodia. This organization is part of the International Labour Organization and is dependent on its funding to maintain this type of project. LaborVoices and QuizRR are for-profit companies that gain their funding from brands as part of their corporate social responsibility. Last, each case has chosen a different approach when it comes to design. LaborVoices provides surveys to workers and shares information that it has gathered with the workers. Outstanding Worker functions similarly, but it provides workers with a knowledge quiz and then shares information based on the quiz topic. Last, QuizRR provides educational videos on tablets in factories and then asks questions related to the videos. These similarities and differences represent interesting elements for comparison, and the cases together provide an in-depth understanding of the phenomena of crowdsourcing as monitoring systems of global labor.

LaborVoices

LaborVoices is a company that collects data from factory workers through its system called Symphony. It operates in Bangladesh and Turkey. Workers can call in to the system using their own mobile phones and answer a survey. The system is based on interactive voice recognition (IVR). IVR is a system that uses speech recognition to interact with the caller through recognizing voice and keypad use. The questions in LaborVoices' survey cover child labor, wages, fire safety, abuse, sanitation, work hours, and worker recommendation. In addition, LaborVoices has used an open-ended question that asks whether the caller wants to give any other feedback. However, this option depends on the project.

This tool has been implemented in more than 200 factories in Bangladesh. It has been launched in Turkey to help detect child labor and abuse of Syrian migrant workers. LaborVoices has published two data releases, one from Bangladesh and one from Turkey. The Bangladesh report covers data from January to June 2016. During this period, 5,265 workers called in. The Turkey project's report covers data collected from February to July 2016, based on 3,217 calls. The data are analyzed to score each factory according to the topics mentioned above, from wages to child labor.

LaborVoices' data are used to both inform companies about conditions in their factories or specific areas and to publish industry reports. In these reports, LaborVoices publicly shares information on conditions in factories. Most important, it gathers the information, analyzes it, and shares it with the workers. This information includes which factories have good sanitary standards and information on how to avoid human trafficking.

Outstanding Worker Better Factories Cambodia

Kamako Chhnoeum, which means Outstanding Worker, is a project by the International Labour Organization's Better Factories Cambodia (BFC). It was launched in September 2013. This tool is meant to

educate factory workers, offering lessons based on what the workers find important (International Labour Organization, 2016). The workers call in and answer questions related to different topics such as wages, health, and safety. The system is run through software provided by Verboice, and is also based on IVR. In the early stage of this project, the workers could also record a message at the end of the call. However, this option is no longer in use. BFC also chooses random callers to win a prize for participating in the project.

In addition, BFC has created an app called Labor Law Cambodia. This app delivers the same information as the IVR call-in system, offering information and quizzes on the same topics. This app is an additional tool aimed toward factory management and other interested stakeholders with smartphones, whereas the previously mentioned call-in system was for any type of phone. By collecting data on workers' knowledge levels through quizzes, BFC is able to get an understanding of their knowledge on rights. All callers contribute to the data, which BFC analyzes to see what needs to be focused on in future quizzes. This enables BFC to better understand which topics are of greater interest, as workers select specific topics when they call in.

QuizRR

QuizRR is a digital training service. It offers two applications focusing on social responsibility. The first is Rights and Responsibilities, which aims to improve workers' and factory managers' understanding of rights and responsibilities in the workplace. The second is Worker Engagement, which focuses on dialogue and engagement in the workplace. This training is happening in China, Bangladesh, and Mauritius. QuizRR aims to increase knowledge, dialogue, and engagement between employees and employers, connecting people at all levels in factories through educational films and quizzes. The tool is accessed through tablets, which are distributed throughout the factories with which QuizRR works. Workers can access this tool only when they are in the factory.

By implementing training sessions in which workers take their quizzes individually, QuizRR can collect data on knowledge levels on the selected topics. The collected data give insight into knowledge levels in the specific factories that are using the tablets. Having the quiz available only through tablets in factories can restrict the number of users, as these are not as available as tools used in workers' private time on their phones. However, knowing exactly which factory the information comes from can be an advantage to brands, as it shows where more training is needed.

Method

This was a multiple case study research. The three cases were investigated through content analysis of in-depth interviews, product demonstrations, online articles, interviews, reports, and videos. The material was critically examined based on Boeije's (2010) framework for qualitative analysis. Two interviews were done over Skype, and one by using a similar tool, GoToMeeting. The interviews were not held in person because the participants were located in the United States, Cambodia, and Hong Kong.

The first interview was with Jill Tucker, former chief technical advisor for Better Factories Cambodia. Her role was central in the launch of the Outstanding Worker project in 2013. As she is no longer working on the project, she proposed making contact with Esther Germans, current program manager for Better Factories Cambodia. We were further put in contact with Sara Park, the technical officer. An interview was then held over Skype with Sara Park and Ly Sokheng, the communications assistant at Better Factories Cambodia. The third interview was held with the chief executive officer of LaborVoices, Kohl Gill, over Skype. The interviews gave insight from the professionals' perspective about using crowdsourcing and technology to reach workers. A limitation of this part of the study is that an interview was not conducted with any representative from QuizRR. Several attempts to schedule interviews were done, and contact was made with the company. However, in the end, QuizRR was unable to take part in an interview, and the analysis had to depend on information available online.

Content analysis was done on five reports on the Outstanding Worker project by BFC and one article on Verboice, the software that the Outstanding Worker runs on. Furthermore, we analyzed two reports from LaborVoices on its projects in Bangladesh and Turkey and two product demonstrations of QuizRR's tool (one for Worker Empowerment and one for Rights and Responsibilities). The reports and product demonstrations gave insight on the nature of themes and questions, which helped answer the question of what kind of issues are communicated through the tools. In addition, they gave more detail about the tools' design. For example, whether these tools have an automatic system to which workers can call or whether they use video training through tablets and then provide quizzes can have different implications on workers' participation. Last, they gave specific data that showed indicators of successful developments, such as a rise in participants after radio advertisements.

Besides these reports, we collected media articles to get more information about each of the cases. This sample consisted of 13 articles on BFC and its Outstanding Worker project; 23 articles on LaborVoices, two podcast interviews, and the blog section from its website; and 15 short film clips created by QuizRR, 29 articles, a combination of shorter blog posts and longer articles, and six quotes from users of the systems. For LaborVoices, the high amount of available data resulted in choosing to use online articles from 2014 to 2017. For QuizRR and BFC, fewer data were available, and we decided to use articles and other types of data (e.g., blog posts and video clips) available online without restricting them to a time period.

This material provided insight into opinions on the systems' possibilities, their perceived usefulness and development, how they are used by others, and how they are considered to make an impact. These were analyzed with the awareness of bias, as many of these articles were written by or based on interviews with the project leaders. Regardless, they gave insight to the project managers' worldviews. It is worth mentioning that this study does not intend to examine the success of the tools, but only their potential.

The material was analyzed based on Boeije's (2010) framework for qualitative analysis, starting the process with reading all documents that had been collected. Second, the data were organized in a manner so that they could be coded and analyzed. The first step of the coding process was open coding, based on Strauss and Corbin's (1990) three steps of open coding, axial coding, and selective coding. The

coding process had an inductive approach, in which theoretical concepts did not take over the analysis process in this initial stage.

The axial coding process aimed to connect the parts of the data that covered the same themes. Before the axial coding started, we combined some of the open codes that were overlapping. Furthermore, the codes that were related to each other were connected. Main codes and subcodes were developed. For example, worker communication issues, communication skill practice, and in-factory dialogue were grouped into a new code called need for dialogue training. In the selective coding process, the data were connected to the theoretical framework.

During the coding process, it was important to again look for rival explanations that were not necessarily in sync with the literature framework, as suggested by Yin (2014). The analytic technique can be referred to as "explanation building" (p. 147). This was done by reflecting on the findings and comparing them with theory and previous research during and after the coding process. As explanation building is a process of repetition, the data were examined repetitively, and findings from the data were compared with the theoretical framework.

Findings and Analysis

Workers' Access to Grievance

When exploring the potential for digital technology to make an impact on working conditions, much comes down to how these systems are designed. First, the findings from this study strongly suggest that the medium should be flexible. This means that the crowdsourcing tools must be accessible through diverse technologies, from modern smartphones with an Internet connection to basic feature phones without it (Zuchowski et al., 2016). This means researching the spectrum of users' access and use of technology. Do they have smartphones or basic feature phones?

Second, one must customize the design so that it overcomes challenges of digital illiteracy. If the main user group mainly uses voice communication, then the system should do the same. Third, having an information-sharing function is central. It is preferred that the system be educational in the way that it can share useful information with the workers about their rights and responsibilities. Fourth, the system should be designed so that it collects quality data that best capture the voices of the workers. This might be done through quizzes, surveys, and recorded messages and videos. Last, findings suggest that the system be designed so that it can be updated regularly to stay relevant to both workers and brands. At the core of the tools' design is the workers' motivation to use them.

For systems to have the best possible effect, an important aspect is user friendliness. As argued by Greene and Mamic (2015), there are some challenges that need to be accounted for: user friendliness and fit with the local context, costs of access, literacy, digital literacy, and incentives for use. So, how have the systems accounted for these challenges? Tucker (2013b) explains,

> Due to illiteracy, low education levels and the fact that the Khmer Unicode is not available on many inexpensive phones, workers generally do not use their phones for texting, but rather calling. This meant that a program to communicate with workers would need to use an Interactive Voice Response (IVR) system. (para. 3)

Unicode is the encoding of text and the repertoire of available writings systems for diverse phones. Another reason for using voice communication, as argued by Islam and Grönlund (2011), is that texting is more advanced. However, we found that access to mobile phones is widespread, and phones are often shared between family and friends for those who do not have their own.

The LaborVoices and Outstanding Worker systems are open 24/7 and are automated based on interactive voice recognition, which means that the caller is asked questions and then has to press, for example, 1 for "yes" and 2 for "no." In some of their projects, workers have also been able to leave an open-ended message. It emerged from the data that this automatic service is perceived as more trustworthy than hotlines and more effective than audits. The problems with hotlines is that workers do not trust them:

> What is established is that hotlines are not designed to build long-term relationships and rarely provide a channel to confirm facts on the ground with other workers. In private communications with us, hotline administrators in Bangladesh have expressed frustration. Workers don't use hotlines, they have said, because workers don't trust them. (Olmos, 2014, para. 11)

The findings suggest that hotlines are not trusted because they do not give information back to workers, but only receive their grievances. In addition, it was found that the automatic service of LaborVoices was experienced as quicker, and the data were more likely to be reported to key decision makers. As with audits, workers might feel intimidated to talk about problems or perhaps fear that a manager is watching:

> Auditing is sometimes a cat-and-mouse game, with factory management going to extremes to fool monitors by hiding problems and coaching workers. Even in the best of cases, high-quality audits are designed to identify problems, not to resolve them. Without effective enforcement, audits can be used to absorb and deflect attention rather than ensure that changes are actually made in factories. (Tucker, 2013a, para. 5)

This finding supports arguments made by S. Chen and colleagues (2015) that traditional monitoring practices are insufficient. However, Tucker (2013a) also points to the importance of enforcement mechanisms to solve issues. So, the ability to call in anonymously, at any time, inside or outside the factory and have information stored automatically with the ability to receive information back is key to creating a trustworthy system. New media tools challenge the traditional method of monitoring factories (audits) by offering workers opportunities to be involved. However, also with crowdsourcing tools, problems might be identified only and not solved. After all, there are limits to the possibilities of communication tools if effective law enforcement mechanisms are not in place (Tsay, 2014).

Outstanding Worker and LaborVoices use interactive voice recognition and anonymous call-in systems. An advantage of this design is the possibility of calling in private, without colleagues or managers present. QuizRR, however, has digital trainings on tablets inside factories. The anonymity is removed from QuizRR's system, as the workers use it in their workplace under surveillance by managers and local digital training staff. It seems as though QuizRR has locked its system to hardware that is limiting when it comes to workers' ability to express themselves freely. The tool appears to be repurposed for factories trying to be attractive workplaces and using training possibilities to make them stand out: "It's not as easy to get people to work in factories in China anymore and they see this as a way to become more attractive employers" (Sofie Nordström [cofounder of QuizRR], quoted in Wolf-Watz, 2015, p. 13). Findings in this study suggest that QuizRR's tool is not a tool to report pressing issues and mitigate labor exploitation, but a business tool to recruit workers and for brands to create better business-to-business relationships. Nevertheless, workers are able to get access to information on their rights, but in a more controlled environment:

> By using the QuizRR training solution, factories can strengthen the factory–brand relationship and create a long term business relationship with global brands, while at the same time become an attractive employer for workers and thereby strengthen the factory reputation. (QuizRR, 2017, para. 7)

In line with edutainment strategies in development communication (Singhal & Brown, 2018), QuizRR does create an engaging platform in which it gives information to communities to foster development. However, it does not offer the same anonymous participation as LaborVoices and Outstanding Worker. According to the findings, anonymity is most appreciated by the users.

Workers' Access to Information on Rights

The data analysis found that the most important feature of the crowdsourcing tools is their ability to share information with workers. When looking for similarities between the three systems, the information-sharing feature surfaced as the most important commonality across these cases. However, the LaborVoices and Outstanding Worker platforms were designed more toward engaging the user in deciding on the most important topics, whereas it was less so for QuizRR. As LaborVoices and Outstanding Worker can change questions in their voice messages, QuizRR's tools are more complex with training videos, which makes a topic update perhaps more time consuming.

The themes that are shared with workers and the questions that are asked reveal two important aspects: what kinds of supply chain insights are created and how they can benefit workers. Therefore, it is necessary to conduct extensive field research and test topics and questions to understand what to ask and what workers are interested in knowing in line with "grassroots activism" agendas (Choudhury, 2011). For example, Kohl Gill, chief executive officer of LaborVoices, stated, "So, we test a lot of questions in the field, we ask workers, you know in-person surveys, some of these questions we also ask them what kind of information they would want to know" (K. Gill, personal communication, April 17, 2017).

Thus, it is found that research is necessary to unveil the most prominent problems that need to be addressed. An example of this is LaborVoices' field research on human trafficking, including experiences with recruiters, threats of violence, and deprivation of personal documents:

> So now we're starting to gather a bit more data on that and I think we've shown a statistically significant segment of workers are actually experiencing elements of human trafficking in the apparel supply chain. Which I think most people didn't really know before. (K. Gill, personal communication, April 17, 2017)

Considering that information sharing is such an important part of the tools, it is necessary to ask what kind of platform is best for this aim. For example, BFC uses Facebook as an additional platform to share the same information that it shares through its call-in system:

> Facebook is the biggest social media channel here. What Sokheng does for us every week is also to update one to three messages everyday under labor law, their rights responsibilities, trying to . . . message it more positively about their rights and it's through this kind of feeding information constantly and regularly we try to also change their knowledge base and to know their rights. (S. Park, personal communication, April 5, 2017)

Considering this, it might be more effective to go where the users are (i.e., Facebook) instead of trying to make them use a completely new system. According to Digital in 2017 Global Overview (We Are Social & Hootsuite, 2017), globally active social media users are highest in East Asia, Southeast Asia, and South Asia. India, Indonesia, Philippines, Turkey, Thailand, and Vietnam are among the top-10 countries with the largest number of active Facebook users. Dhaka and the surrounding area have 22 million active Facebook users. The amount of active Facebook users worldwide and Facebook users in countries that are big garment exporters underlines that this social media platform can be worth using.

This information suggests that the countries and cities where many people work in the apparel industry are also countries with considerable amounts of active social media users. Thus, there is reason to wonder why the crowdsourcing tools in this study, with the exception of BFC, have not made better use of Facebook. Of course, this pits engagement against privacy, both prized factors among users. Although the chat function, live feed, or comment sections on Facebook can be used to display transparency, workers' identities are open for management to track and monitor.

Transparency Down the Supply Chain

Brands and companies receive benefits by using these crowdsourcing systems. For example, using the tools can be a way to receive positive attention in the media, creating a better reputation. This visibility can lead to fewer violations, injuries, and misconducts. Corporations that are affected by the UK Modern Slavery Act 2015 (Deloitte, 2016) might use tools like these to show that they are taking steps to ensure slavery-free supply chains. It also pressures companies to educate themselves about their workers' conditions, which they might not have known:

> I'm the first to blame big corporations for just about anything, but when we look more closely at the issue it becomes apparent that Gap and Walmart don't actually know who is producing their products due to the majority of the work being sub-contracted into anonymity. LaborVoices' system is going to make it more difficult for big retailers to not know what's going on in the factories where their products are being made. (Corl, 2014, para. 7)

Furthermore, it is not a given that collecting and sharing labor rights information will result in actions that solve the problems. Here, problems are found, but the solution depends on how this information is used. Solutions to the problem depend on enforcement mechanisms such as local labor laws, legislation, and regulations for public disclosure, as argued by Jill Tucker (2013a). It is also impacted by brands' willingness to take more responsibility when it comes to abuse in their supply chain, which ultimately is a business decision: "At the end of the day, brands need to not only do this out of the kindness of their hearts, but [they] should be doing this because this is actually good for business" (Ayush Khanna [chief operations officer of LaborVoices], quoted in Gonzales, 2014, p. 6).

Brabham (2009) argues that technology is a tool that can create deeper levels of engagement between people and institutions and governments. For workers, communication technology can have socially emancipatory effects, as argued by Thigo (2013). With systems like those in this study, there is potential to facilitate new collective action by giving a voice to workers and challenging the existing distribution of power. Having access to information and being able to report on major issues are the key features of digital monitoring systems that enable worker engagement "by building a functional feedback loop, it makes it significantly harder to ignore practices and history" (Wadhwa, 2016, p. 8). Overall, the findings strongly suggest that if brands see importance in making use of these systems, they can fuel the systems' existence by paying for the service. Furthermore, they can use the information to improve their own supply chain, communicate to the public that they are taking action, and put pressure on other brands to do the same.

The findings have resulted in the conceptual model shown in Figure 1. The analysis resulted in these main elements, which show the dynamics in monitoring systems for mitigation of labor exploitation. The model consists of four parts: (1) the platform and its specific affordances; (2) design, which needs to be accessible and user-friendly based on workers digital literacy skills; (3) marketing and engagement efforts through leveraging on already popular usage behavior such as Facebook use, in addition to local radio advertisements; and (4) well-researched content with the most important issues for workers to learn about and to report on, and dynamic content that can be regularly updated to ensure user interest and motivation.

These elements create the possibility for workers to receive information on their rights, factory standards, and other issues that are perceived as meaningful to the workers. A platform's design should allow workers to share grievances through open-ended messages or surveys. The collected data can create transparency down the supply chain, which can account for the corporations' insufficient monitoring practices (S. Chen et al., 2015). This is also a scalable and less costly monitoring practice than traditional audits, and a potentially more effective way to detect exploitation. These tools are not stand-alone mechanisms. Therefore, enforcement mechanisms such as local labor laws and regulations affect workers' empowerment.
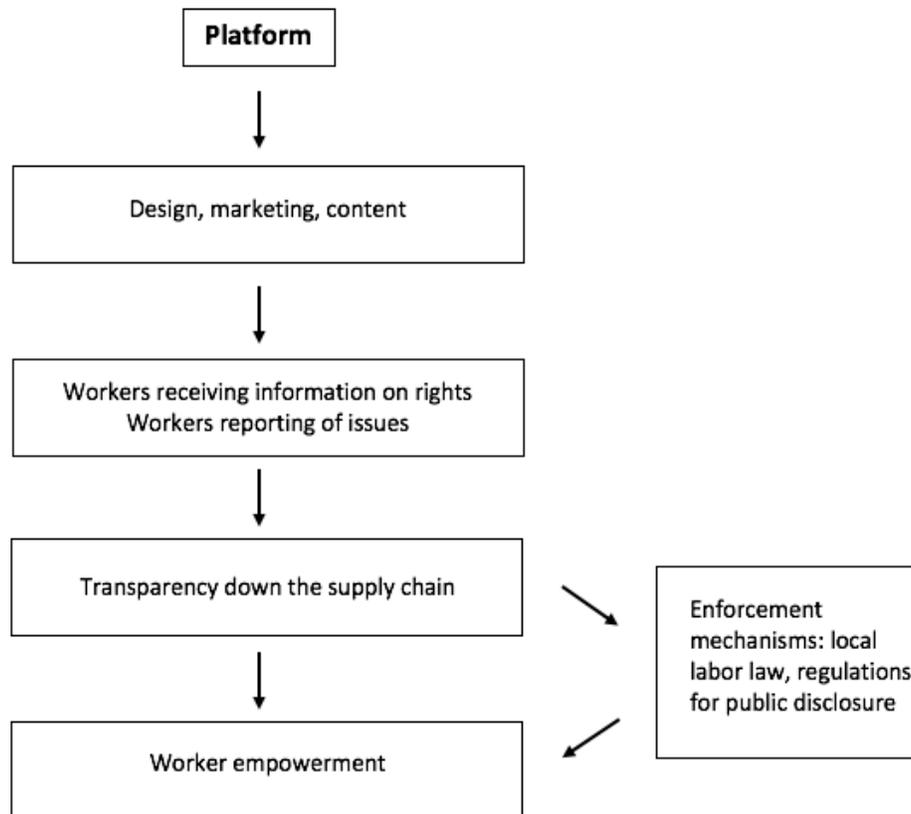
Figure 1. Conceptual model for crowdsourcing tools, worker, and brand dialogue.

Conclusion

The effects of globalization and free trade have made it hard to get an overview of what is happening in production supply chains (F. Chen, 2003; Delaney & Connor, 2016; International Labour Organization, 2017; Szirmai, 2012). What kind of standards can be expected? What can workers demand? Who is actually working as a subcontracted employee for brands?

The cases in this study have different approaches to how they work toward worker empowerment. There is no one answer to the best approach. They have varied levels of success and reach. QuizRR might be more inclined to help companies and create good business relationships, whereas Outstanding Worker and LaborVoices aim toward directly communicating with and solving issues that are

more pressing for workers. In addition, these tools are new and their long-term effect is yet unknown. On the other hand, the tools open the doors to innovations in digital monitoring systems.

Freedom to use the systems in private through personal phones might enable workers to report on more crucial issues, and let them use the systems more often. In-factory tools enable less freedom; however, they help factories attract workers. One can argue that what is initially beneficial for the companies and factories might not be as empowering for workers.

The findings revealed a prevalent and important tension: the desire for anonymity to build trust and extract quality data on worker's conditions versus the need to socially engage and build community through public digital platforms such as Facebook. Digital privacy, particularly of low-income workers, is a highly under-researched topic (Arora & Schreiber, 2017). We need to unpack what constitutes as privacy among these marginalized demographics so we can embed these values and practices within the design of these crowdsourcing tools.

By analyzing junctures where workers demand visibility versus anonymity, we can sensitize ourselves to their specific motivations. What was particularly interesting was how automation provided more trust than the hotlines, begging the question of the role of artificial intelligence in shaping future monitoring systems. It is worth reassessing the popular notion of automation as a dehumanizing system, given that the humanizing element may in fact further the exploitation of workers due to existing biases.

Moreover, although new platforms like crowdsourcing promise "dialogue" between workers and brands, the findings revealed more conventional forms and flows of information between these actors. The power of aggregation of workers' opinions still lies in the hands of powerful and potentially biased intermediaries. Although the ideal of online collective agency especially with the rise of digital labor is appealing, we have a long way to go to realize this kind of digital unionization. Perhaps by critically analyzing the histories of unions, their futures may be enabled.

Technology can be a tool to make the world a bit smaller and more transparent. This study has explored the use of crowdsourcing tools for worker and brand dialogue, and suggests that this might be a new way of increasing the agency of factory workers. More studies are needed on the grassroots level, particularly to capture the spectrum of voices from below: How do workers perceive these new interventions? What is their impact on their working conditions? How do workers learn to trust these tools, and what factors contribute to the building of trust? What kind of strategies are in place for workers to communicate to one another on their concerns, and how can novel technological interventions best leverage on these grassroots practices for maximizing the impact?

After all, building trust of crowdsourcing tools is not just a technological, but also a sociocultural and structural issue. We need more comparative and global studies on how these platforms impact workers to arrive at a more nuanced and comprehensive understanding of the implications of these interventions on labor rights, social justice, and corporate responsibility. In addition, we know little of the kind of assessment measures available for evaluating the levels of trust, which is endemic to this process. Hence, we need further research on how these apparatuses are designed to maximize trust and

engagement between these actors. Embedding review systems can be an option to strengthen these platforms. Overall, this research offers a novel angle to think about how crowdsourcing by itself is not always the correct solution just because "it's something new"; traditional communication still plays a part and will play a role for a long time.

References

Aaronson, S. A., & Wham, E. (2016). *Can transparency in supply chains advance labor rights? Mapping of existing efforts*. Institute for International Economic Policy Working Paper Series, Elliott School of International Affairs*.* Retrieved from https://www2.gwu.edu/~iiep/assets/docs/papers/2016WP/AaronsonIIEPWP2016-6.pdf

Arora, P., & Scheiber, L. (2017). Slumdog romance: Facebook love and digital privacy at the margins. *Media, Culture & Society*, *39*(3), 408–422.

Boeije, H. (2010). *Analysis in qualitative research*. London, UK: SAGE Publications.

Brabham, D. C. (2008). Crowdsourcing as a model for problem solving: An introduction and cases. *Convergence, 14*(1), 75–90. doi:10.1177/1354856507084420

Brabham, D. C. (2009). Crowdsourcing the public participation process for planning projects. *Planning Theory, 8*(3), 242–262.

Chen, F. (2003). Between the state and labour: The conflict of Chinese trade unions' double identity in market reform. *The China Quarterly, 176*, 1006–1028.

Chen, M. (2017, October 24). Could a global living wage put an end to corporations' "race to the bottom"? *The Nation.* Retrieved from https://www.thenation.com/article/could-a-global-living-wage-put-an-end-to-corporations-race-to-the-bottom/

Chen, S., Zhang, Q., & Zhou, Y. P. (2015). *Impact of supply chain transparency on sustainability under NGO scrutiny*. Retrieved from http://dx.doi.org/10.2139/ssrn.2590152

Choudhury, P. S. (2011). Media in development communication. *Global Media Journal, 2*(2), 1–13.

Corl, A. (2014, January 8). *LaborVoices: Where startups and progress meet*. Retrieved from http://killerstartups.com/startup-spotlight/laborvoices

Danish Institute for Human Rights & CSR Centre Bangladesh. (2016). *Human rights and business country guide: Bangladesh*. Retrieved from https://globalnaps.org/human-rights-and-business-country-guides/

Delaney, A., & Connor, T. (2016). *Forced labour in the textile and garment sector in Tamil Nadu, South India: Strategies for redress*. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2889125

Deloitte. (2016). *Corporate governance: Introduktion til UK Modern Slavery Act 2015* [Corporate governance: Introduction to the UK Modern Slavery Act 2015]. Retrieved from https://www2.deloitte.com/content/dam/Deloitte/no/Documents/risk/Introduktion-til-modern-slavery-act-2015.pdf

Doorey, D. J. (2005). Who made that? Influencing foreign labour practices through reflexive domestic disclosure regulation. *Osgoode Hall Law Journal, 43*(4), 353–405.

Gonzales, N. (2014, November 8). *Why taking care of your apparel workers is good for business*. Retrieved from http://www.triplepundit.com/special/sustainable-fashion-2014/taking-care-apparel-workers-good-business/

Greene, L., & Mamic, I. (2015). *The future of work: Increasing reach through mobile technology.* Bangkok, Thailand: International Labour Organization.

Hilbert, M. (2011, November). Digital gender divide or technologically empowered women in developing countries? A typical case of lies, damned lies, and statistics. *Women's Studies International Forum, 34*(6), 479–489. doi:10.1016/j.wsif.2011.07.001

Hildebrand, M., Ahumada, C., & Watson, S. (2013). CrowdOutAIDS: Crowdsourcing youth perspectives for action. *Reproductive Health Matters, 21*(41), 57–68.

Hosio, S., Goncalves, J., Kostakos, V., & Riekki, J. (2015). Crowdsourcing public opinion using urban pervasive technologies: Lessons from real-life experiments in Oulo. *Policy & Internet*, *7*(2), 203–222.

International Labour Organization. (2016, May 2). *Smart phones, smart workplaces*. Retrieved from http://www.ilo.org/global/about-the-ilo/newsroom/features/WCMS_476096/lang--en/index.htm

Islam, M. S., & Grönlund, Å. (2011). Bangladesh calling: Farmers' technology use practices as a driver for development. *Information Technology for Development*, *17*(2), 95–111. doi:10.1080/02681102.2010.526093

Kaka, N., Madgavkar, A., Manyika, J., Bughin, J., & Parameswaran, P. (2014). *India's technology opportunity: Transforming work, empowering people*. Retrieved from http://www.mckinsey.com/industries/high-tech/our-insights/indias-tech-opportunity-transforming-work-empowering-people

Nash, K. (2010). *Contemporary political sociology: Globalization, politics, and power* (2nd ed.). Chichester, UK: Wiley-Blackwell.

Olmos, A. (2014, March 14). The missing link. *Dhaka Tribune.* Retrieved from https://www.dhakatribune.com/opinion/op-ed/2014/03/13/the-missing-link/

Overby, S. (2017, November 6). *What is outsourcing? Definitions, best practices, challenges and advice*. Retrieved from https://www.cio.com/article/2439495/outsourcing/outsourcing-outsourcing-definition-and-solutions.html

Prpić, J., Taeihagh, A., & Melton, J. (2015). The fundamentals of policy crowdsourcing. *Policy & Internet, 7*(3), 340–361.

Puspitasari, L., & Ishii, K. (2016). Digital divides and mobile Internet in Indonesia: Impact of smartphones. *Telematics and Informatics*, *33*(2), 472–483. doi:10.1016/j.tele.2015.11.001

QuizRR. (2017). *About us*. Retrieved from https://www.quizrr.se/about-us

Rogers, E. M. (1976). Communication and development: The passing of the dominant paradigm. *Communication Research*, *3*(2), 213–240. doi:10.1177/009365027600300207

Schweitzer, F. M., Buchinger, W., Gassmann, O., & Obrist, M. (2012). Crowdsourcing: Leveraging innovation through online idea competitions. *Research-Technology Management*, *55*(3), 32–38. doi:10.5437/08956308X5503055

Singhal, A., & Brown, W. J. (2018). The entertainment-education communication strategy: Past struggles, present status, future agenda*. Jurnal Komunikasi, Malaysian Journal of Communication, 12.*

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research*. Newbury Park, CA: SAGE Publications.

Szirmai, A. (2012). Industrialisation as an engine of growth in developing countries, 1950–2005. *Structural Change and Economic Dynamics*, *23*(4), 406–420.

Thigo, P. (2013). People, technology and spaces: Towards a new generation of social movements. *Journal of Contemporary African Studies*, *31*(2), 255–264. doi:10.1080/02589001.2013.783755

Tsay, A. A. (2014). Designing and controlling the outsourced supply chain. *Foundations and Trends in Technology, Information and Operations Management, 7*(1), 1–160.

Tucker, J. (2013a, September 23). Cambodia's dangerous transparency problem. *The Wall Street Journal*. Retrieved from https://www.wsj.com/articles/SB10001424052702304713704579092741721686938

Tucker, J. (2013b, December 12). *Mobile phones for labour rights*. Retrieved from
        https://iloblog.org/2013/12/12/mobile-phones-for-labour-rights/

U.S. Department of State, Bureau of Democracy, Human Rights, and Labor. (2015). *Bangladesh 2015
        human rights report: Country reports on human rights practices for 2015*. Retrieved from
        https://www.state.gov/documents/organization/253171.pdf

Vodafone Group. (2013). *Connected worker: How mobile technology can improve working life in emerging
        economies*. Retrieved from https://www.vodafone.com/content/dam/vodafone-
        images/sustainability/downloads/vodafone_connected_worker.pdf

Wachanga, D. N. (2012). Participatory culture in an emerging information ecosystem: Lessons from
        Ushahidi. *Communicatio, 38*(2), 195–212.

Wadhwa, T. (2016, January 8). Using technology to create safe and ethical retail supply chains. *Forbes.*
        Retrieved from https://www.forbes.com/sites/tarunwadhwa/2016/01/08/the-ongoing-struggle-
        to-use-technology-to-create-safe-and-ethical-retail-supply-chains/#2f19bb657c55

We Are Social & Hootsuite. (2017). *Digital in 2017: Global overview.* Retrieved from
        https://www.slideshare.net/wearesocialsg/digital-in-2017-global-overview

Wolf-Watz, S. (2015, July 3). *Kinesiska febriksarbetara ska räddas—med svensk frågesport* [Saving
        Chinese factory workers—with a Swedish quiz]. Retrieved from
        http://www.breakit.se/artikel/933/kinesiska-fabriksarbetare-ska-raddas-med-svensk-fragesport

Yin, R. K. (2014). *Case Study Research: Design and Methods* (5th ed.). Thousand Oaks, CA: SAGE
        Publications.

Zuchowski, O., Posegga, O., Schlagwein, D., & Fischbach, K. (2016). Internal crowdsourcing: Conceptual
        framework, structured review, and research agenda. *Journal of Information Technology, 31*(2),
        166–184.