



Factories, Phones and Faces in India: An Analysis of Good World Solutions in Indian Factories

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Executive Summary

Good World Solutions (GWS) is a social enterprise at the cutting edge of building transparency in global supply chains by connecting factory workers at the base of the pyramid with supply chain managers through affordable, scalable web and mobile technologies. GWS is supporting clothing brands that source from India through conducting mobile surveys in clothing factories through their innovative technology, Labor Link. By enabling workers to take a short mobile survey on banking, working conditions, and other subjects, GWS is able to gather a significant amount of quantitative data from workers that does not get skewed by factory management or other intermediaries, which is often the case with other surveys directed by factory management. In this way, GWS is able to guarantee anonymity to workers participating in surveys and communicate valid findings to brands that therefore become aware of the issues facing their workers at the base of their supply chain.

While this quantitative data that GWS collects is useful in making supply chain managers aware of the conditions in their contracted factories, GWS's impact can grow through supplementing quantitative with qualitative research aimed at understanding factory workers' lives and their perception of Labor Link surveys. With this in mind, GWS partnered with Santa Clara University Global Social Benefit Fellows, Matt Stockamp and Holly McKenna, who spent five weeks in India to research factory workers, in an effort to collect data on workers' lives, their engagement with technology, and their experience with Labor Link. The fellows interviewed a total of 16 individuals in five factories from Delhi to Bangalore. Of these respondents, 14 were workers and two were managers. To supplement the interviews' contents, one fellow documented the factory visits with photographs and video clips, which allows the reader to glimpse into the world where this research was conducted.

This report contains the limitations and methodology of this research and the quantitative and qualitative data that has been extracted from interview transcriptions, observations made in the factory, and conversations with NGOs based in India. From the research conducted, findings have been deduced, which focus on how workers interact with Labor Link and the survey's impact on workers' lives. They are particularly relevant as they provide a good lens for how Labor Link works in the field. From these findings, recommendations have been compiled that address some possible ways for Labor Link to improve in India's evolving tech market.



Photograph 1: Rows of workers in an Indian factory.

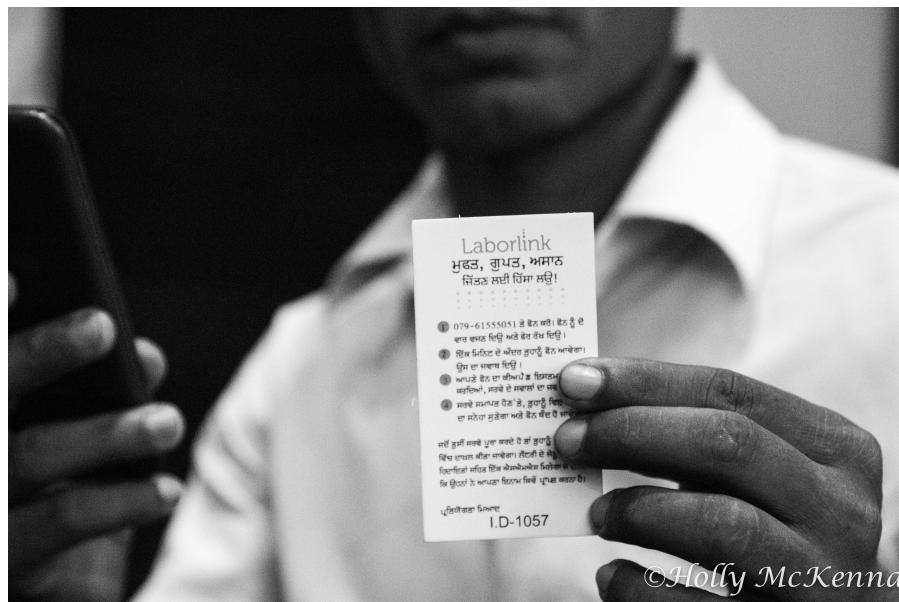
Table of Contents

Executive Summary	2
The Problem Addressed & The Social Enterprise	5
Good World Solutions' Research Needs	7
Field Research	9
Research Limitations	
Research Methodology	
Data Analysis	14
Quantitative Data	
Qualitative Findings	21
Recommendations	31
Acknowledgments	37
Appendix	38
Questionnaire	
Graphs	

The Problem Addressed and the Social Enterprise



Global demand for low cost merchandise drives cheap labor and exploitative practices. Consumers want to know how they can buy ethically produced goods. The Rana Plaza Factory collapse in Bangladesh left over a thousand garment workers dead and brought the world's attention to the inhumane conditions of the factories that produce our clothes. As corporations and consumers have begun to realize the dangers imposed on factory workers abroad, there is an increased desire to know what goes behind the goods we consume. By increasing transparency, Good World Solutions provides companies and other stakeholders with this information.



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Photograph 2: Good World Solutions uses the technology, Labor Link, to send surveys to the mobile phones of factory workers. These cards are passed out to the workers, where they then can call and answer the survey anonymously.

Good World Solutions (GWS) seeks to give factory workers a voice through bridging them directly with company decision makers who contract factories to source their goods. Due to the high prevalence of ineffective social audits and the consequences workers face from factory owners, workers' rights are abused and working conditions are poor. This was manifested in the Rana Plaza collapse in Bangladesh and other countless catastrophes. GWS addresses the need for transparency in global supply chains by harnessing the capabilities of mobile technology. Through a mobile phone, workers can take GWS's Labor Link survey, a twelve-question assessment tool that is analyzed through voice-recorded questions. This medium ensures anonymity and enables GWS the ability to communicate the actual working conditions to their corporate customer. In doing so, GWS enhances transparency for companies interested in ethical sourcing. More critically, GWS provides social value to factory workers by giving them a voice, and creating a channel to generate change in their workplaces.



Photograph 3: Labor Link surveys voice recordings so the workers do not have to be literate in order to take them.

GWS developed the innovative and frugal technology, Labor Link, a mobile platform that sends surveys directly to the mobile phones of the factory workers using voice control technology in the local language so both literate and illiterate persons can take the survey, and ensure the anonymity of the factory worker to increase the likelihood of accurate responses. The surveys typically contain 12 questions, take around five minutes, and are very adaptable in terms of their use. Labor Link has been used by GWS for evaluating BSR HERfinance financial literacy training programs, as well as compiling information about working conditions, banking, and other areas upon the brand's desire.



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Photograph 4: The Labor Link surveys are available in many local languages in order to give all the workers an opportunity to take the survey if they so desire.

GWS's Research Needs

GWS is currently operating in 16 countries around the world and has reached nearly 150,000 workers. Most of the data collected has been quantitative. Labor Link surveys

are distributed, and the data collected are then analyzed and given to the brand or NGO partner. While this data has cast light on working conditions and workplaces of concern, there is a need for qualitative data to better understand the impact Labor Link has had on the lives of its respondents and their life aspirations.



Photograph 5: During the factory visits, Matt took field notes to enhance our research.

Through a partnership between Santa Clara University's Center for Science, Technology, and Society and GWS, the fellows conducted qualitative research in five factories, in Delhi (3), Ludhiana (1), and Bangalore (1), India, to interview workers regarding their opinions of Labor Link and to better understand how they engage with technology. Research was done through interacting with factory workers, utilizing observation and interviews to compile data on workers' experiences with Labor Link and provide recommendations for how Labor Link can be improved. Video was also shot in the factory and during interviews in order to capture workers taking Labor Link surveys, as GWS pieces together a promotional video.

Field Research

The fellows went to India to collect qualitative data to complement the abundant quantitative data GWS already collects and analyzes. GWS worked to provide us access to five factories in India, four in the North, and one in the South. During the first factory visit, it became clear that interviews were the most practical method to collect data. Although we had originally intended to conduct focus groups, productivity is too essential in factories, so taking away small groups of workers to talk to each other for an extended period of time was not feasible. The environments in which we conducted our interviews were effectively controlled and structured by the factory management. Both in the North and South, we had a translator conduct the interviews in the local language.



Photograph 6: Due to a language barrier, the interviews were conducted by a translator.

We took photographs, observed, and took field notes during all of our factory visits.

We came back from India with the transcripts from the interviews, observational field notes, photographs, and additional information from our time in India. We have been able to digest and analyze this information to sift out knowledge that will benefit GWS and its Labor Link technology.

Research Limitations

The context of clothing factories has become politically heated since international awareness is rising in regard to factories and inhumane working conditions. Concerns have grown as a result of the Rana Plaza collapse and other disasters around the globe. With pressure from fair labor groups such as the International Labor Organizations (ILO), consumers, and others to uphold ethical standards, factory managers are very wary to grant outsiders access to their factories and workers. Due to this and other factors in this research setting, many limitations were encountered.

The means of accessing factories was directly through the brands that have contracted the services of GWS. Because of this, factory management was required to grant us access, but for our research, the time allowed in each factory was too limited to conduct a comprehensive, qualitative analysis of Labor Link's impact. At all but one factory, only one day was allotted to interview workers and observe the factory floor. With limited time in each factory, it was not possible to establish the trusted relationships necessary for in-depth qualitative research. Additionally, since factory managers did not wish to compromise worker productivity, interviews lasted only 15-20 minutes so that workers could get back to work. While this time did allow us to get at some useful information for GWS, more time and better relationships were needed to more fully understand the depth of Labor Link's impact on workers' lives. In the recommendations, we state the conditions necessary for better social science research in the future to substantiate the benefits that GWS provides worker participants.

Another limitation was factory managers regularly asking to be present during interviews. Although we did not probe at working conditions or other sensitive

information, we believe that management's presence might have influenced workers' responses to our questions.

The language barriers also proved to be a difficulty. Since we did not speak Hindi or Kannada, we had limited control over our interviews and their content. We were able to write up questions for our interviews, but since they were semi-structured, there was a lot of content we wished we could have probed at further after reading the transcriptions. Not knowing the language made it impossible to probe at these areas during the interviews.

In the South, our translator had limited knowledge of Labor Link and how it worked, since she had not previously worked for GWS. After reading the transcriptions, it was clear that she went beyond the instructions given to her, and on her own initiative, probed for information we did not intend to solicit. More generally, we lacked control over the interviewing process. Functionally, we were bystanders, which resulted in some research activities that did not elucidate what we had originally intended.

While we encountered numerous limitations in the field, we retrieved a lot of useful information for GWS; this informs our recommendations and how Labor Link might be improved. Labor Link is at the forefront of a compelling social issue entangling global trade, and is addressing the core of the problem in an innovative way that promotes transparency throughout the supply chain. Through this research, we were able to glean a lot of good data about how workers perceive Labor Link through on-the-ground research. We believe the knowledge obtained from this data will be helpful for GWS moving forward, and inform future research activities shedding light on efforts to provide workers voice and to make global supply chains more ethical.

Research Methodology

The challenges of conducting research in clothing factories in another culture and language prompted us to alter our methods in the field, as we sought to represent GWS

well and act in accord with factory management's instructions. Below, we explain our data collection practices.

Sampling Strategy

Our sampling strategy was influenced by factors outside of our control. We only sampled workers who had taken a Labor Link survey before, and since we did not know who had participated in these surveys (oftentimes the survey had been conducted as long as a year before our research), factory managers or compliance officers, employees primarily responsible for overseeing and managing regulatory compliance issues within a given factory, selected respondents for us. At some factories, we were nervous as to whether or not some respondents were coached through how to respond to the questions we asked. However, in the majority of cases, we believe that we received honest feedback, once managers and workers understood that our interviews did not ask them to report sensitive information. In short, we used a convenience sampling strategy, and had to interview workers who were brought to us by management or compliance officers. Therefore, there may be an implicit sampling bias in our data.

Interviews

We conducted 16 interviews in five factories, and arranged for recordings to be transcribed. Due to the language barrier, facilitators (Sumita Sarma with GWS in the north and Mamatha Mohan in the South) conducted the interviews while we observed the respondents. Needing to rely on this methodology was frustrating since there was some information we wished we had probed further but were not aware of until after the interview. Each interview lasted for around 15 minutes and posed questions about the workers' lives, their aspirations, and interactions with Labor Link (the interview questions can be seen in the Appendix). The interviews were semi-structured, so that we could get qualitative data and deviate from the intended questions as we saw fit. Factory management was present for about half of these interviews, which clearly made some of our respondents nervous, but we felt we obtained honest responses, as our questions did not try to get at sensitive information. We understood why these

managers wanted to be present, as many auditors have criticized them in the past, and sometimes for the wrong reasons. Still, the potential of their presence biasing data must be considered.

Observations

We were allowed to walk around the factory floor at each of the five factories we visited. Since we had never been to a factory before, it was difficult to know what kinds of things we should have been watching for. Matt wrote down notes in a Moleskine journal, describing the environment (whether people were socializing, temperature, safety standards, general conditions, etc.) while Holly took photos. This time was also used to talk with factory managers about their factory (where they source from, what they value, etc. A broad variety of questions were asked). We usually had to stay with factory managers as we walked through these factories. Matt's observations were recorded and then typed into field notes. There are five documents, each pertaining to a specific factory.

Field Notes

Field notes were taken at the factory, primarily during observation and interviews. These are rough, but have been rewritten in word documents for the purpose of serving our analysis.

Transcriptions

We have 16 transcriptions from each of the interviews that were conducted in the field. Due to the language barrier, we recorded the interviews and sent the audio files to Sumita Sarma and Mamatha Mohan to translate and transcribe the interviews they had conducted. Doing this allowed us to save on the cost of a more formal transcription, and enabled more accurate information since the interviewer herself was able to transcribe her interview.

Photos

The photographs Holly took in the factories were completely dependent upon the relative freedom allowed to her by factory management. Some managers allowed her to walk freely and take photos of everything and anything, while others stayed with her the whole time and even had her show them her photos after she was done. In one scenario, she was forced to delete a couple of photos. Much of this is due, however, to the fact that some factories are under contracts with the brands to not allow photography of their clothing during production. Nonetheless, we did have to comply with factory management and what they allowed us to take. Holly always asked permission from workers whether she could take their photo, and was polite to not do so if they did not want it.

Video

At the consent of factory management, Holly took video footage on the factory floor and recorded most of the interviews, in an effort to contribute footage to GWS for a promotional video. Workers were asked to sign a consent form, allowing us to use the footage at our disposal, before they were filmed. All of the factories visited allowed us to film. All but the first two interviews at a North Indian clothing factory were filmed, and there is around five hours of raw footage, which mostly consists of interviews and clips on the factory floor. All of our data is securely stored online. In order to act ethically and protect our respondents, we will only publish data we have been given consent to publish.

Data Analysis: Understanding the Sample Quantitatively

Quantitative Data

It is important to note here the limitations we encountered in our data collection process. All five factory visits were constrained by the pressure of the factory managers to use as little of their production time as possible, so it was difficult to get as deep into the interviews as we would have liked. The factory managers chose the workers for us to interview and even remained present during the interview, further confounding our sample. Since the sample of factory workers interviewed is not representative of Indian factory workers as a whole, it is essential to understand where our skewed sample lies before delving into the analysis. Although this sample is skewed, there is still benefit to it, as many workers expressed similar feelings towards their experience with Labor Link.

Quantitative data were extracted from the workers' interviews in order to provide a visual representation and a statistical context for the qualitative interviews conducted in factories in India. The quantitative data are useful to understand the demographics of the sample, as compared to the general population of factory workers. They are also useful because they illuminate topics relevant to the life of a factory worker. Factory worker demographics, technological background, and Labor Link survey experience are the three areas from the transcripts that demand greater attention due to their relevance. Since factories in the North of India are inherently different than the factories in the South, this data has been stratified by location for each topic.

Factory Worker Demographics

In the garment factories where we interviewed workers, the factories in the North were mostly comprised of men, while those in the South were mostly of women. In this sample of 14 garment workers, 60% were male in the North, and 75% were female in the South (Figure 1).

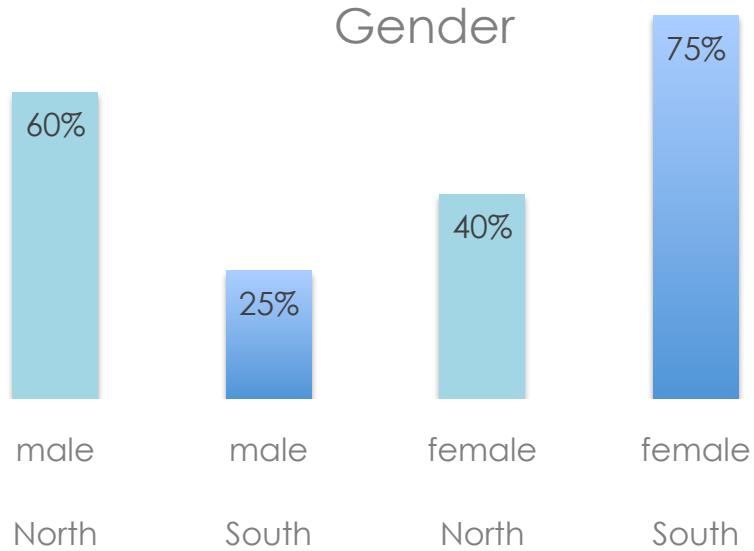


Figure 1: Percentage of male versus female factory workers (N=14)

These numbers are not perfectly aligned with the average due to this small sample size and lack of randomization. However, walking through the factories, it was clear the North and South had opposite gender compositions. It is also important to note that 100% of the workers interviewed were migrants (Figure 2).

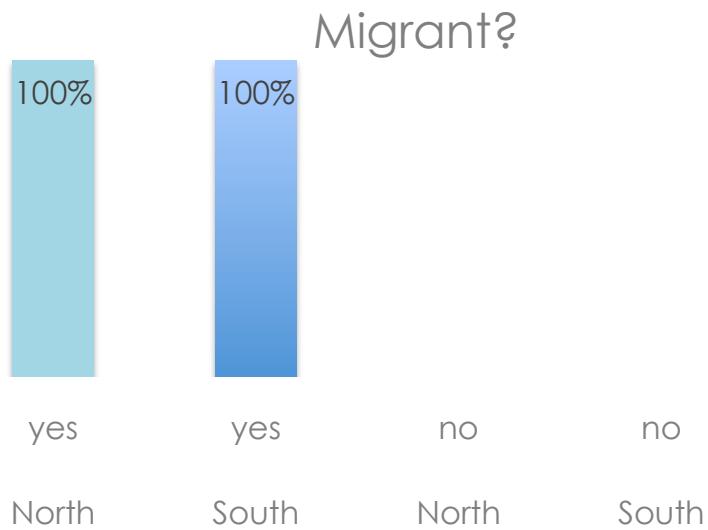


Figure 2: Percentage of migrant factory workers (N=14).

Migrant workers are very prevalent in Indian factories, and there are implied problems for these individuals. For example, migrants have the added stress of leaving their

families, finding ways to get money back to their families safely, and remaining in contact with their families back in their villages. Although migrants are sometimes recruited for short-term labor in the factory, the workers from both the North and South had been working in their current factory for an average of four years, which is a relatively long period of time (Figure 3).

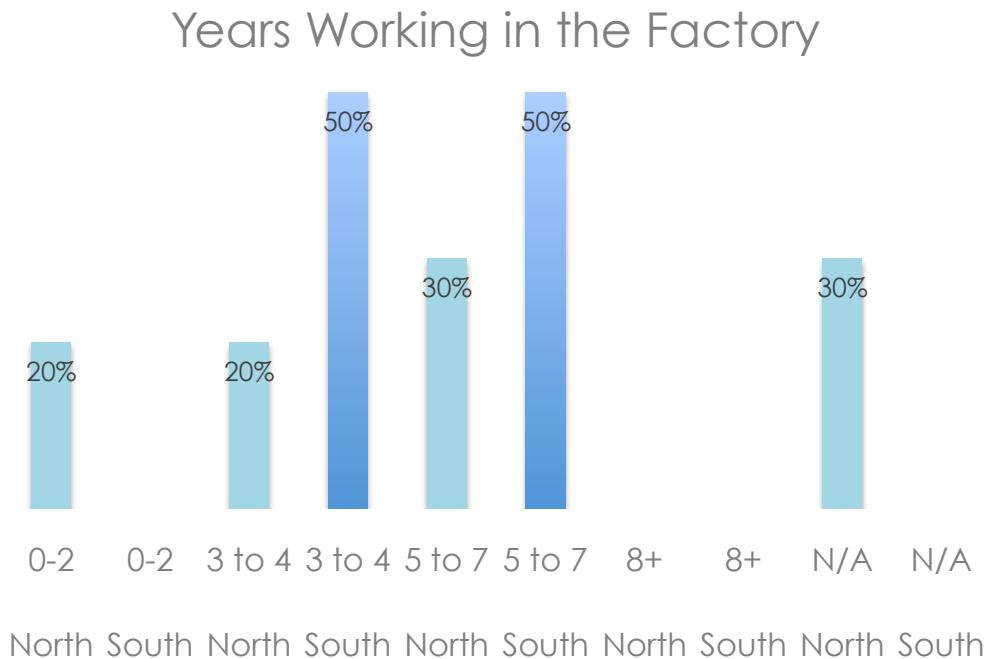


Figure 3: Percentage of the factory workers (N=14) and the number of years working in their current factory.

Other demographics are worth noting; in the North, 90% of the sample was married, while in the South only 25% were (Figure 4). This may be due to the gender and age distributions of our sample. In the North, 80% had 6 years of schooling or more, compared to 100% of the workers in the South (Figure 5). This may explain why better educated women may marry later.

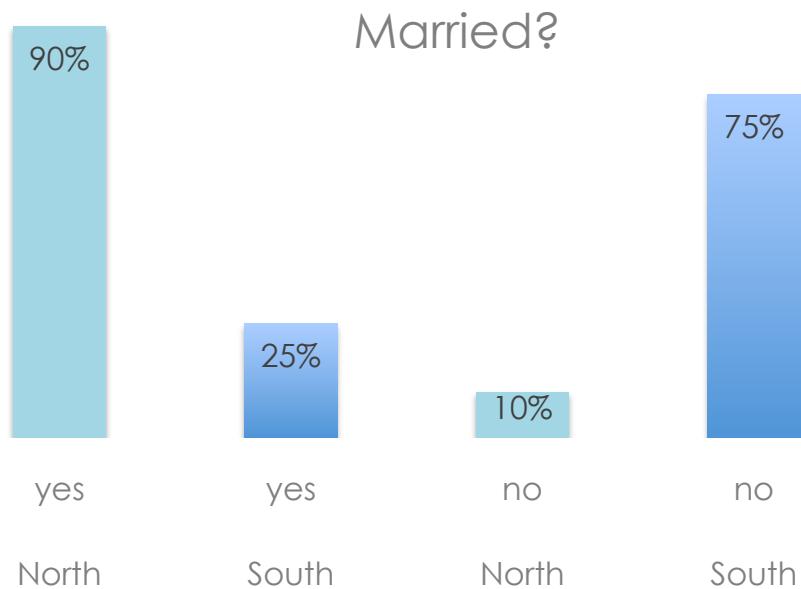


Figure 4: Percentage of married factory workers (N=14).

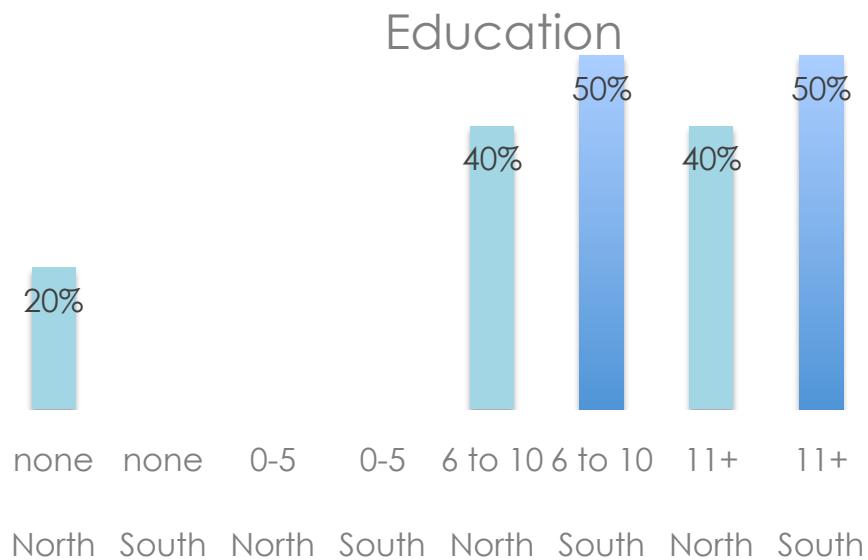


Figure 5: Percentage of factory workers (N=14) in each range of educational attainment.

Technological Background

Since cell phone usage has expanded dramatically throughout India, and telephone calls are the only mode of communication for long-distance families, it makes sense that 13 of the 14 factory workers we interviewed have their own personal cell phone (Figure 6).

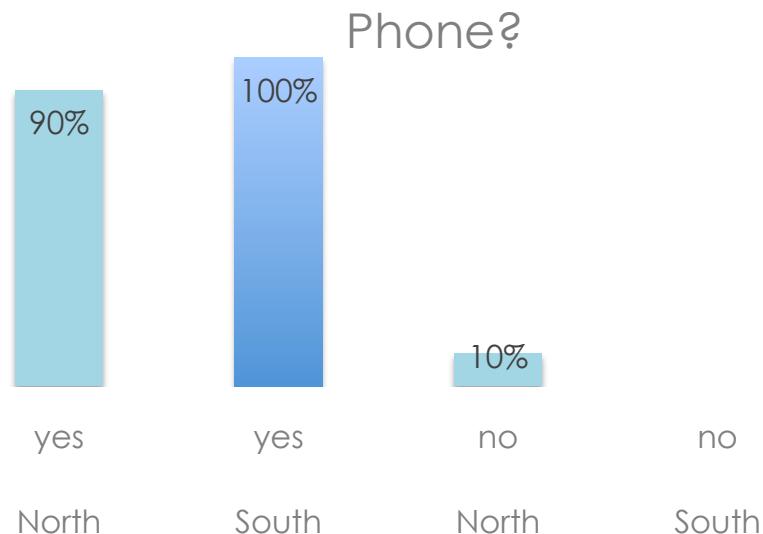


Figure 6: Percentage of factory workers (N=14) with a phone.

When discussing their phone use, it became clear that making and receiving calls from family was of utmost importance to them and their phone use. It is interesting to note here that in the North, 50% of the workers had simple phones, while in the South 75% had simple phones as opposed to touchscreen phones (Figure 7). The one interviewee who had a touch screen phone from the sample in the South was a man. Therefore, the difference of phone types could be due to the gender composition between the North and South. Men in India are usually the heads of the households and therefore will likely get the family touchscreen phone before the women in the family does.

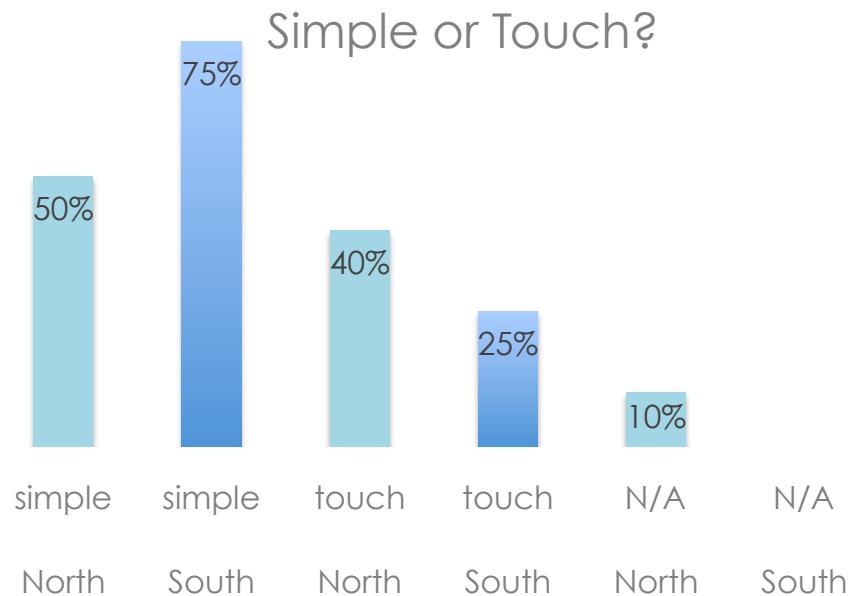


Figure 7: Percentage of factory workers (N=14) with a simple phone versus a touch screen phone.

Labor Link Survey Experience

About 75% of all of the workers we interviewed did not have confusion while taking the survey for the first time (Figure 8).

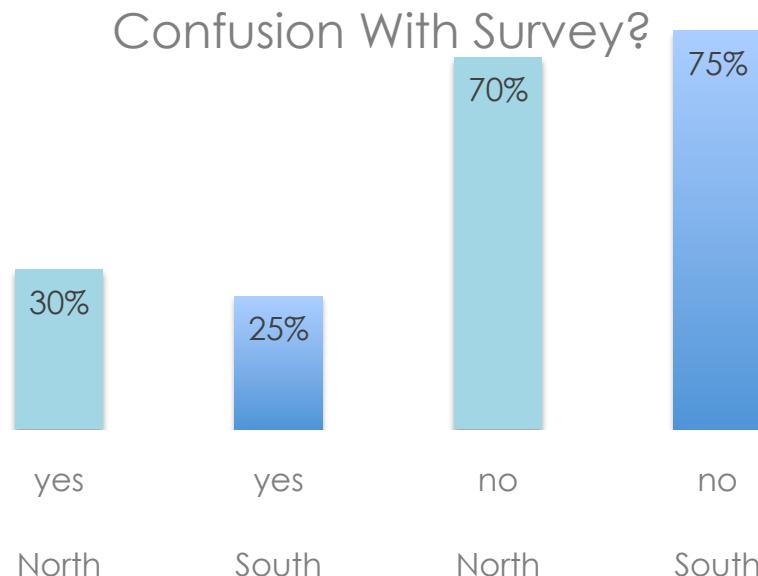


Figure 8: Percentage of the factory workers (N=14) who were confused while taking the Labor Link survey.

The workers need to have a basic understanding of cellular phone use, such as placing or receiving a phone call, in order to use Labor Link. The younger generations are more comfortable with technology, but even the older generations are able to take the surveys with help from others.

Discussion of the Quantitative Data

The discussion of these data is important to set the stage of the discussion of the qualitative findings. Our findings are grounded in these quantitative data, but expand much more on the importance and relevance of the research. For all of the figures, refer to the appendix. The figures display the percentages of workers interviewed in the North and South regarding different demographic aspects. There were ten factory worker interviews in the North, and four in the South. The sample size and collection method needs to be taken into account, however the information has still proven useful given these limitations.

Qualitative Findings

Description of the Data

Despite the limitations encountered in the field, the transcriptions from the 16 interviews conducted across five factories contain valuable information. To reiterate, of these 16, two respondents were factory managers and 14 were factory workers. The findings from this data are not representative due to the small sample size, but there is a lot to glean from them, especially in regard to how workers interact with and perceive Labor Link. These findings draw from interviews, observations and conversations had within the factories, photographs and videos, and discussions with Sumita Sarma and Ramesh Raju. They have been categorized below in segments titled workers, management, and the Labor Link technology in order to best articulate what was discovered in the most logical manner.

Workers

Most of the findings regarding workers come from interviews and observations from the factory floor.

There was shared enthusiasm among workers around taking the mobile survey.

All 14 workers in our sample expressed excitement upon taking the mobile survey, and everyone told their coworkers and family about it after participating. At two clothing factories in Northern India, the last Labor Link survey was conducted in early 2013, yet all of the respondents at these factories maintained a vivid memory of taking it. Almost all of them engaged their coworkers and helped them take the survey on the factory floor if they experienced any complications.



Photograph 7: The workers seemed excited to have a new technology introduced into their factory and shared the news with their family and friends.

The mobile top up is an effective incentive for workers to take the Labor Link survey.

With an average overall response rate of around 50%, Labor Link proves itself to be rather impressive in comparison to pen and paper surveys or other feedback methods utilized by factory management. This is likely due to the salient incentive given to 10% of those who take the survey: 200 rupees of mobile top up. All of the individuals interviewed were migrants, and one of the reasons they are attracted to the mobile top up incentive is because it allows them to call their families at home whom they rarely see during the year. Additionally, 200 rupees is a motivating amount of money considering that the average worker typically uses 10 rupees to top up his/her phone. Therefore, this top up gives them 20 times more mobile credit than they would usually have. In this regard, Labor Link has found an innovative means to ensure many participants respond to their survey. Distributing the winnings across a larger proportion of respondents creates more incentive for every worker to participate, and Labor Link has seen a positive impact in their response rate as they continue to increase the amount of mobile top up winners.

In large part, workers do not understand the purpose of the Labor Link survey.

While it is crucial to motivate workers substantially in order to get a workable response rate, many of the workers interviewed did not understand the purpose of the survey. At a factory in Northern India, one respondent noted that he had to “answer the questions correctly to win the prize.” In many cases, the mobile top up can orient workers away from understanding the survey’s ultimate purpose of giving them a voice. Some respondents expressed that their coworkers did not take the survey because they did not see *why* they should take it. While reading this finding, it is important to consider that Labor Link launched in India just two years ago, and all of the respondents in this sample had only been exposed to the survey one or two times. In this short time frame, one cannot expect Labor Link to have transformed the lives of workers in a given factory. This kind of transformation will come with time, as Labor Link deepens relationships with factories, enabling workers to attribute positive change to the survey.

Workers with limited education struggled more in taking the survey.

There is a discrepancy between the amount of education men and women receive in India. In this sample, it was found that men on average spent a few more years in school than women did. This, considered with the fact that men tended to be more exposed to technology resulted in men typically having an easier time with Labor Link than women. We observed that women usually needed more help from Sumita or factory managers to take the survey than men did. However, for many of these workers, this was the first time they were being exposed to Labor Link. A couple female respondents, in their interviews expressed that they had a hard time taking the survey the first time it was distributed, but had a much easier time and knew exactly what to do when they participated in a second or later survey.



Photograph 8: It was clear that some of the workers struggled with the survey more than others. Women typically have a harder time with understanding new technology than men.

Some workers also had a hard time knowing what to do next after they were given the Labor Link calling card. Of the 14 respondents, two could not read or write so they had no idea what to do after the card was given to them. At this point, the cards seem to be very well thought out and written, with clear instructions in the local language,

presented in a pleasing format. The workers that had trouble with the calling cards relied on Sumita, factory management, or their friends to help them with the survey, and once they received the call from Labor Link they were able to do the rest. Since the survey can be taken in such a simple manner, Labor Link enables illiterate and uneducated workers to engage in a unique survey and provide their feedback, which would be much more difficult or impossible to do through surveys that demand literacy.

Findings on workers' demographics, lifestyles, and values.

As discussed earlier in the quantitative findings, many of the workers interviewed were well educated, some even overeducated for factory work. In this sample, six of the 14 had studied through secondary school and one had even obtained a university degree. All but two respondents had gone to school at some point in their lives. In India, there is a very qualified and educated workforce with limited job opportunities relative to its booming economy. This was seen in this sample.

One of the values every respondent expressed was making sure their children received an education. When asked, "How many children do you have and what do they do while you are working?", every respondent (if they had children) answered that they were in school. In many cases, their children had already reached a higher level than they themselves had received. In this sense, the younger generation is and will be more educated than their parents. This will carry over into a lot of areas, as the younger generation is also more exposed to technology and growing up in a time of rapid globalization. Some of these children even helped their parents with their mobile phone and were involved in assisting them through the Labor Link survey. In the case of younger children, women are often left with a difficult choice of what to do with them while they work. A factory in Southern India approached this problem by providing childcare facilities and services in their factory. Ensuring that children are safe and being educated was highly valued amongst all respondents.

All respondents stated they have very limited free time during the week. Women in India carry multiple burdens as they are expected to take care of their husband and his

family, assume primary responsibility for child rearing, and work to contribute income for the family. These demanding tasks are very time consuming, leaving women factory workers with little leisure time. While male factory workers typically have a little more time, they are still very busy as well. In this sense, most workers expressed that they spent their free time relaxing with family on Sundays.

Managers

There was a lot of interaction with management in the field since they were the ones responsible for granting access into their factory. Gaining access and interacting with management was easier at factories Labor Link connected with directly through the brand, as opposed to the other two where surveys were conducted for BSR's HERfinance training. In some cases, factory management appeared nervous to have us in their factory, especially at one in Northern India. In this particular factory, outsiders were given access and later went on to publicly slander the factory. Management was concerned with the research being conducted, but was put to ease after knowing the research was not trying to get at working conditions or other sensitive information. Two managers that worked as compliance officers were interviewed in this sample, and were very helpful in better understanding management's role with respect to Labor Link.

Factory management is heavily involved in the training and distribution of some Labor Link surveys.

Initially, it was hypothesized that factory management would grant Labor Link employees access into their factory and then not be involved in the survey training and interviewing. However, the opposite was found. The training of workers and distribution of calling cards was very collaborative at every factory visited, and management played a big part in helping workers take the mobile survey. Including managers in the distribution process was beneficial in these factories since the Labor Link surveys launched pertained to financial literacy. In more sensitive surveys, such as those asking about working conditions, Labor Link does not incorporate managers in the distribution process in order to make workers more comfortable to express their

voice in an honest and anonymous manner. Labor Link is innovative through involving factory management in this process in this sample because in doing so they are able to explain to management how the survey can benefit them, and build a larger base of support for Labor Link in any given factory.

Many NGOs advocate for fair labor rights only by addressing issues faced by workers, and not by communicating with factory managers. While these groups certainly have a role in fighting against abusive conditions, a collaborative effort to reach out and educate workers and managers seems to be the best approach to ensuring a sustainable, safe, and ethical factory. Swasti, a public health organization in Bangalore, believes that when labor unions or other efforts are made solely in collaboration with workers, management will fight harder against the formation of labor unions and other efforts made by workers. Labor Link utilizes factory managers, but does not lose its objective of guaranteeing anonymity to workers. Additionally, Labor Link goes through the results of any given survey with factory management, so that management can see what workers are saying and implement positive changes, as directed by the brand.

Managers in this sample support Labor Link and prefer it to other surveys or methods of feedback.

Compliance officers in factory management positions are typically obliged to try to get feedback from factory workers on a wide variety of issues in the work place. In order to do this, many factories have suggestion boxes for workers to communicate their concerns to management. However, since workers tend to be nervous in doing this, very few suggestions get dropped into the box any given year, according to one compliance officer at a factory in Northern India. Workers are afraid to make their complaints known in fear that management will push back against them. For this reason, they rarely speak out. The managers interviewed in this sample support Labor Link because it provides their workers the comfort and space necessary to make their voice heard.



Photograph 9: This happy woman is displaying an instruction card for the Labor Link survey with her picture on it. Both the factory workers and the management seemed to like Labor Link more than other surveying methods.

In addition to this benefit, managers can also harness a greater, more representative sample of their workers when they use mobile surveys, as opposed to pen and paper surveys or other feedback methods. This not only makes their job easier, but also reduces lost time in production. GWS is able to perform the analysis at a more sophisticated level, and managers are therefore able to better understand the concerns and issues being faced by their workers while not needing to go to extreme efforts in discovering them through other feedback methods. For these reasons, managers in this sample saw Labor Link surveys as a beneficial part of their work, and both respondents expressed interest in sharing their positive experiences with neighboring factories.

Technology

Through observation and taking feedback from workers pertaining to their experience with Labor Link, the functionality of the survey was capable of being studied. Special attention was given in trying to understand who struggled more with the survey, and which parts were most confusing for workers.



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Photograph 10: Over 90% of the factory workers had cellular phones and knew how to place and receive calls. Good World Solutions utilizes the growing ubiquity of cellular phones all around the world.

Once workers got the call back from Labor Link, the survey was clear and easy for workers to take.

GWS has spent a lot of time and effort perfecting their calling cards and survey operator quality, which communicates to workers in their local language. Few of the respondents we observed had a problem with the technology once they got the call back from the operator. Some struggled in the process of calling Labor Link, but once they started the survey it was very straightforward, and workers were not nervous to take it. Voice quality and other technical aspects of Labor Link were never addressed as concerns. One of the benefits the technology has for workers is that the survey can be taken on any mobile phone. Only one respondent in this sample did not have a phone, but this was not a problem, as she was able to take it on her coworker's phone.



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Photograph 11: With the instruction cards, the Labor Link survey was taken with relative ease.

Push notifications were largely ineffective at K. Mohan.

While push notifications pertaining to banking went through to the four respondents interviewed at K. Mohan factory in the South, a couple of them expressed disinterest in them since they did not recognize the caller or number that was notifying them. These workers deleted these notifications since they did not know who they were coming from. Push notifications can be a powerful tool for getting information out to workers, but it must get sent to workers in an appealing way that will ensure they read its contents.

GWS field trainers have little time in factories to educate and train workers on Labor Link surveys.

With production being so valuable, GWS employees are granted little time in a given factory to train workers on how to take the survey and explain to them why and how it can benefit them. This points again to the issue of workers not understanding the purpose of taking a Labor Link survey.



Photograph 12: Only a few workers are trained at one time due to the importance of factory productivity. Even when the workers were allowed to leave work and receive training, there was very limited time to do so.

The respondents in this sample that had touch screen phones struggled with taking the survey.

Through observing workers taking the Labor Link survey on their touch screen phone, it was apparent that many struggled since their screen would go black when they put the phone to their ear. Complications were also observed when they had to get back to their keypad and type in the number to get to the next question.

Recommendations

Based upon the findings, a series of recommendations have been developed to help GWS magnify its impact. These recommendations emphasize development in educating and training workers on the Labor Link survey, India's evolving mobile phone market, and the conditions needed for a more thorough social impact analysis study.

More should be done when it comes to educating workers on Labor Link's purpose.

Few of the workers in this sample understood the purpose of the Labor Link survey. One of the reasons for this is because the mobile top up motivates workers to take the survey, and therefore many do not consider the potential benefit that could come from participating in it. One reason for this is that GWS field trainers (Sumita and Ramesh) have a very limited amount of time to train workers in any given factory. With sustaining factory productivity being so important, they were only capable of training sets of around 15 workers for only 10 minutes at a time. Since workers needed to know how to take the survey, explaining its purpose often fell by the wayside in this short period of time. It is important for workers to understand the survey's purpose and very valuable from an impact perspective for them to know they are being heard by brand management, because they express their agency by participating. Workers will only be able to attribute impact to Labor Link if they see changes being made in the factory as a result of partaking in a survey. Since GWS can only conduct a survey and share its findings with a given brand, they are in a difficult position, as they themselves cannot guarantee workers that change will come as a result of participating in a Labor Link survey. Change is dependent upon the brand. In this regard, it is important for GWS to provide advice to brands on how to understand the data analysis and what to do with it. GWS has expressed that they already do this, but more of this kind of communication with brands is needed to drive positive change in the factories Labor Link works in. Additionally, conducting post evaluation research in factories that have implemented changes after taking a survey is needed for a robust social impact analysis of Labor Link.

Educating workers on the survey's purpose is not very easy, but we believe it can be done in a variety of ways using creative approaches with minimal financial impact. At the most basic level, GWS field trainers can incorporate teaching workers the survey's purpose into the training process. BSR HERfinance took the approach of training around 30 factory workers as peer educators to teach their coworkers about the importance of saving. This method of training workers was very effective, and the same

would likely occur if Labor Link undertook this kind of training, since so many respondents expressed interest in taking the survey and went to great lengths to assist their coworkers in taking it. It may be worth communicating with Sumita and Ramesh to get their input on this to determine whether or not it could be implemented. Training workers through this method could also establish a more consistent relationship between GWS and the factories they work in.

Additional visual educational aids could also be of use in making workers aware of Labor Link's purpose of connecting workers with brands. Although GWS already uses posters, the posters are relatively small and could potentially be more functional. Swasti, a non-profit that runs successful educational programs in factories, recommended that GWS put large posters of the instructional card given to the workers around the factories. This way, there is a clearer connection between the card in the worker's hand, and where to look for clarification. It could also be beneficial for the trainers (Sumita and Ramesh) to display a short video as a supplementary educational tactic. Videos are more efficient training tools because workers get to see the process once before taking the survey, which can make them feel less anxious about starting to take the survey without help. GWS currently has instructional videos which could work in a factory context, but GWS may want to consider filming an Indian factory worker taking the survey, and then translating instructions into the local language. Videos are also more likely to attract the attention of workers. Since there is limited amount of training time available, it is important to be as efficient as possible.

Continue to utilize the mobile top up incentive, as it is being used currently.

The mobile top up incentive has led to increasing response rates and excitement in the factory around the Labor Link survey. Not only does it carry these benefits, but it can also be used to market Labor Link to workers in factories that have not taken the survey yet. If these kinds of incentives are maintained, it's likely that Labor Link will continue to grow and become well known across clothing factories in India.

Market to donors and other key stakeholders that Labor Link works collaboratively with brand management, factory management, and factory workers to help ensure ethical standards.

Labor Link is innovative in taking a collaborative approach to help promote ethical working environments. They stand apart from many organizations in this way, and they should market themselves for this, because it is through collaborative efforts that change can be created. With such misunderstanding between brand and factory managers, Labor Link is able to bridge the gap and help each provide the most they can for their workers at the base of their distribution chain. Marketing this kind of approach and incorporating it online or in grant proposals could be a strong point in obtaining funding and growing the brand.

Investigate what more can be done to solicit feedback from workers.

While there is real value in getting the quantitative data GWS has currently been obtaining through its surveys, more should be done to better understand the issues workers face. Hotlines and other mediums have been used in the past by NGOs and other corporate accountability groups to try to encourage workers to share more about their lives and working conditions in factories, but they have been largely ineffective. Workers are nervous to express their feelings, and many just divorce their work life from their actual life. In other words, they just tolerate their workplaces.

If GWS were able to create a means by which it could regularly communicate with workers and hear back from them, it could develop an ongoing relationship and deepen its impact. It's difficult to think of any one strategy to do this, and many possible means would likely carry a financial burden, since GWS would likely need to develop new technology and employ more workers to hear feedback and determine how to act on it. Nonetheless, adding a qualitative feedback aspect, whether it be through a mobile application or other medium, should be considered.

GWS should devise a strategy for navigating India's evolving economy and phone market.

India's phone market is changing dramatically, which holds implications for Labor Link. To illustrate just one example of this, Mozilla, a Mountain View-based company just began offering its first low-cost smartphone in India for \$33, according to Bloomberg News ("Push in India Begins with \$33 Smartphone". *Bloomberg News*. August 26, 2014). This phone runs the Mozilla OS and includes access to its applications store. It is estimated that Indian consumers will buy about 225 million smartphones this year, according to Brad Rees, chief executive of Mediaccells, a London-based marketing company. This kind of evolving marketplace will have a significant impact on factory workers, as they will shift away from using simple phones to smartphones, which will also carry an impact on Labor Link. With workers gaining access to data and applications, Labor Link might consider creating its own application to push notifications to workers and hear feedback. India is becoming more tech-savvy, and with more smartphones, workers will be able to engage technology at a higher level than ever before. Labor Link should look for opportunities to capitalize on these opportunities.

For example, GWS and Labor Link could tell simple and brief video stories on the web page that workers would find compelling. Besides learning from the stories, GWS could provide information that could be directly helpful to workers and solicit feedback on their concerns. This will require more resources for a web presence but would be worth it if Labor Link could develop a worker audience.

Recommendations for future research in measuring Labor Link's social impact.

As GWS considers soliciting more research into the social impact of Labor Link, future researchers will need to have a longer time in the field and more time with respondents both inside and outside of the factory. One of the difficulties in trying to measure Labor Link's social impact solely through talking with workers is that many of them would not be able to attribute direct changes in their factory to Labor Link. It's possible that

the kind of research needed to measure impact would have to come from a thorough study including brand and factory management. In order to understand Labor Link's social impact, researchers will need to have a thorough understanding of how it operates at different levels and how change is created in the factory. In this sense, the research ought to be holistic, including many different research strategies.



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Photograph 13: The worker behind your clothes.

Acknowledgments

Reflecting on this incredible nine-month adventure, it is clear that it would not have been possible without all the support we received. The hours of energy Thane Kreiner and Keith Warner have invested into our academic, spiritual, and professional development does not go unnoticed. This was a fellowship where growth happens from all angles, all the time. From the critiques to the appraisals, Thane and Keith have shaped us into better students and better citizens of the world. However, we would have not been able to provide half of what we did if it weren't for our mentor, Emile McAnany. Emile remained engaged in our project from the day it started all the way to the end. His professional expertise in research methodology, his global experience, and his optimistic and enabling personality contributed greatly to our project. We cannot thank him enough for his time, energy, and encouragement; we could not have done it without him. We would like to thank the CEO of Good World Solutions, Heather Franzese, and the rest of the team for engaging in this project with us even though their time is limited and precious. The GWS team in India, Sumita Sarma and Ramesh Raju, were essential in our research. We would not have been able to access the factories or gain a better understanding of the context we were in without them. We would also like to extend our thanks to Sowmya Ayyar, Nelson Vinod Moses and the rest of our friends in India for housing us and showing us the love and hospitality India has to offer. We would like to thank our parents for encouraging us to follow our passions, even if they are unconventional, and supporting us through all of our experiences. We would also like to acknowledge the Center for Science, Technology, and Society for their strategic efforts to make the world we live in a better place.

Appendix

Interview Questions

Background Information:

Worker (Name, age, education, marital status, place-migrant/non-migrant)

Domestic Sphere:

- Life at home- family members, spouse's occupation, children, their education.
- What are your aspirations for your children?
- How do you spend your weekend?

Work:

- For how long you are working in this factory?
- Which Department?
- What type of work do you do?

Use of Mobile Phone:

- Do you have a phone? For how long you have been using your mobile phone?
- Who else in your family has a phone?
- Is it a touch screen phone or simple keypad phone?
- Do you know how to operate your phone like texting sms or reading sms etc.
- Do you use your phone for anything besides calls and text messages to friends and family?
- Did you ever call the customer care centre of your service provider?

Mobile Survey

- Did you ever heard of any mobile survey in general or at your factory?
- Were you aware of the Labor Link mobile surveys at your factory? If so, how did you become aware?
- What was the topic/purpose of that mobile survey?
- What do you remember about that survey?
- Did you feel comfortable responding to the survey?
- Why was the Labor Link survey conducted in your factory?
- What was the general reaction of your co-workers who participated in the mobile survey during that time?
- Was Labor Link mobile survey easy to use? Why/why not?
- Have you participated in a mobile survey or any other kind of survey before? Where did you participate?
- What is your opinion about that survey? How is it beneficial to you?
- If there was another Labor Link mobile survey at your factory in the future, would you participate?
- What do you do in your free time, and on breaks?

Quantitative Data Figures

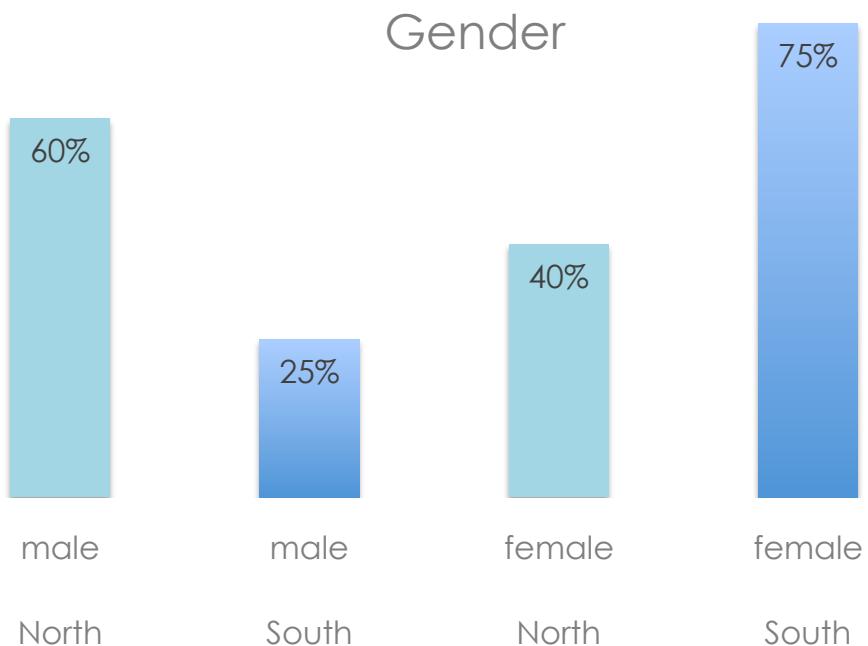


Figure 1: Percentage of male versus female factory workers (N=14)

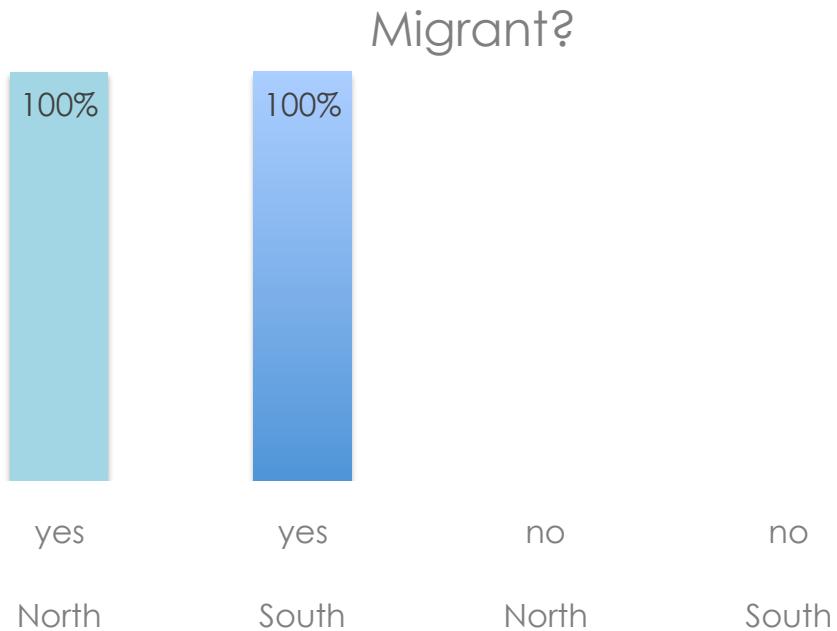


Figure 2: Percentage of migrant factory workers (N=14).

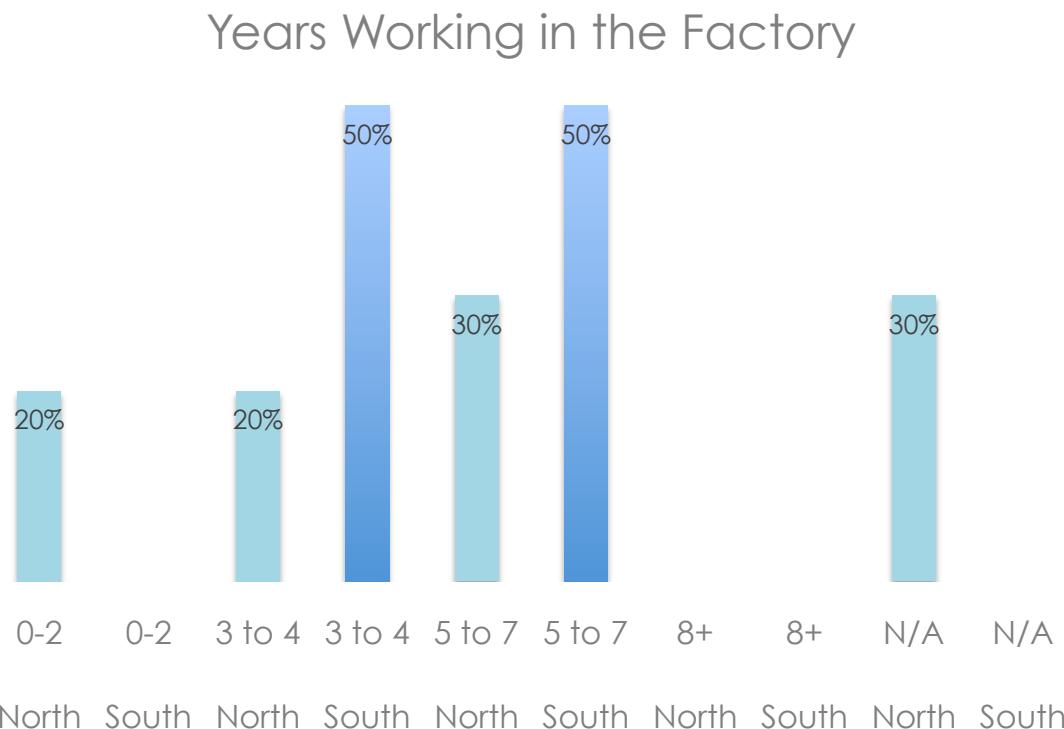


Figure 3: Percentage of the factory workers (N=14) and the number of years working in their current factory.

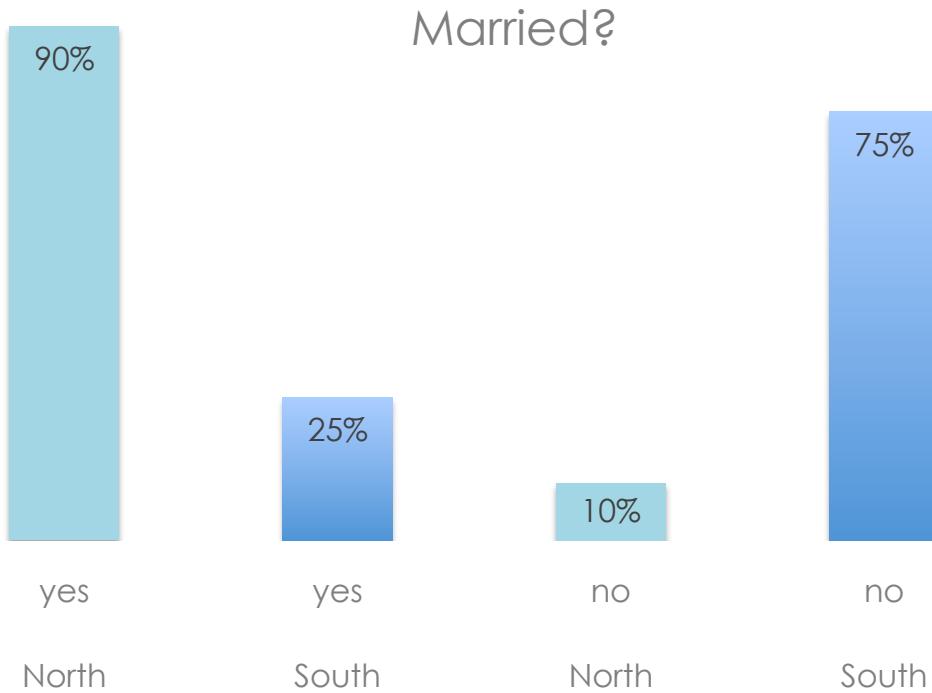


Figure 4: Percentage of married factory workers (N=14).

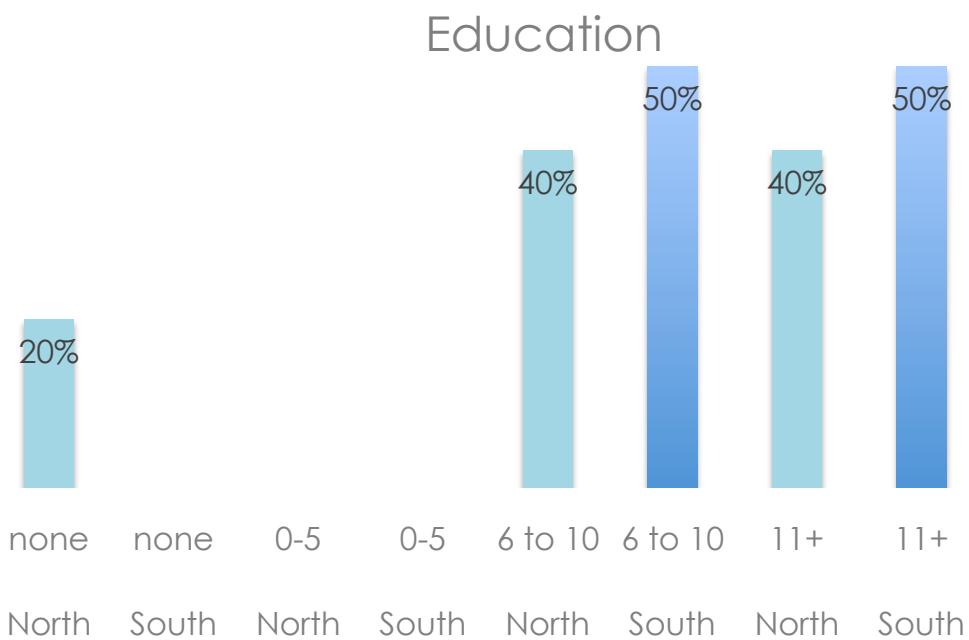


Figure 5: Percentage of factory workers (N=14) in each range of educational attainment.

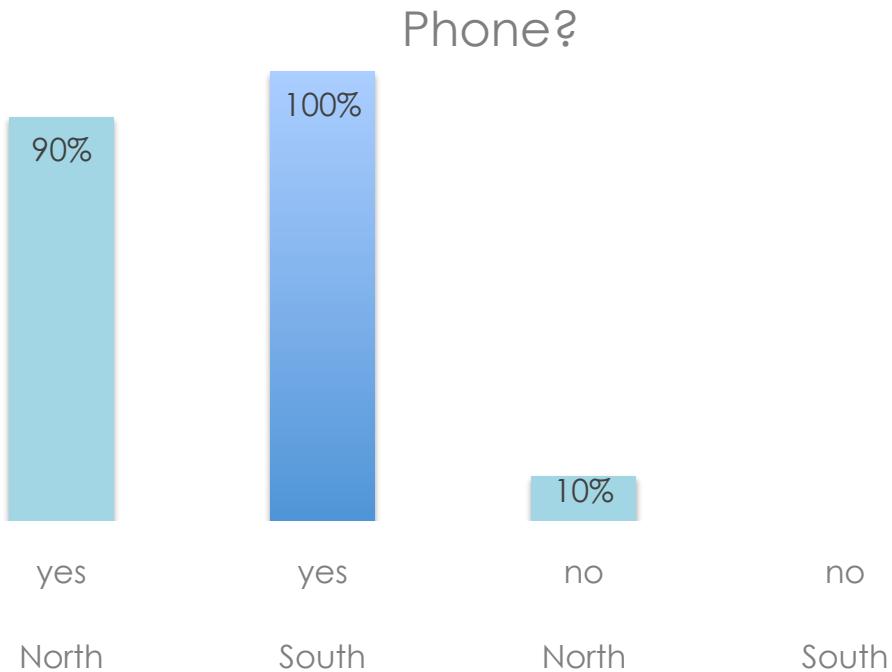


Figure 6: Percentage of factory workers (N=14) with a phone.

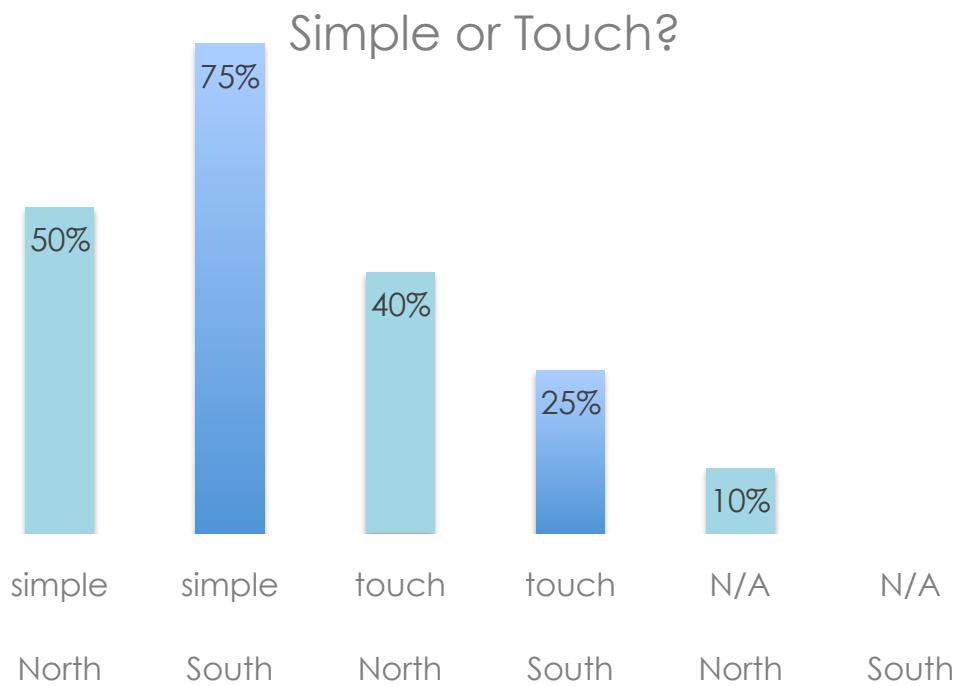


Figure 7: Percentage of factory workers (N=14) with a simple phone versus a touch screen phone.

Confusion With Survey?

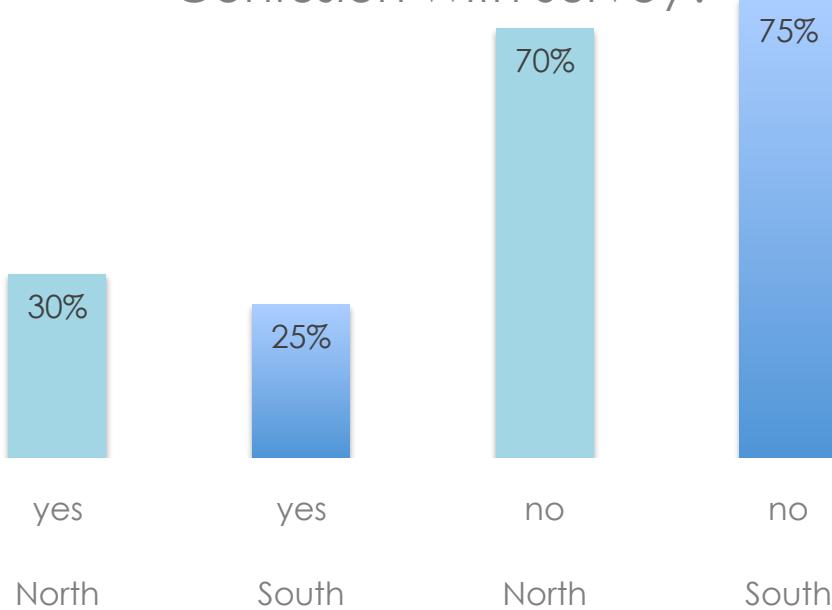


Figure 8: Percentage of the factory workers (N=14) who were confused while taking the Labor Link survey.

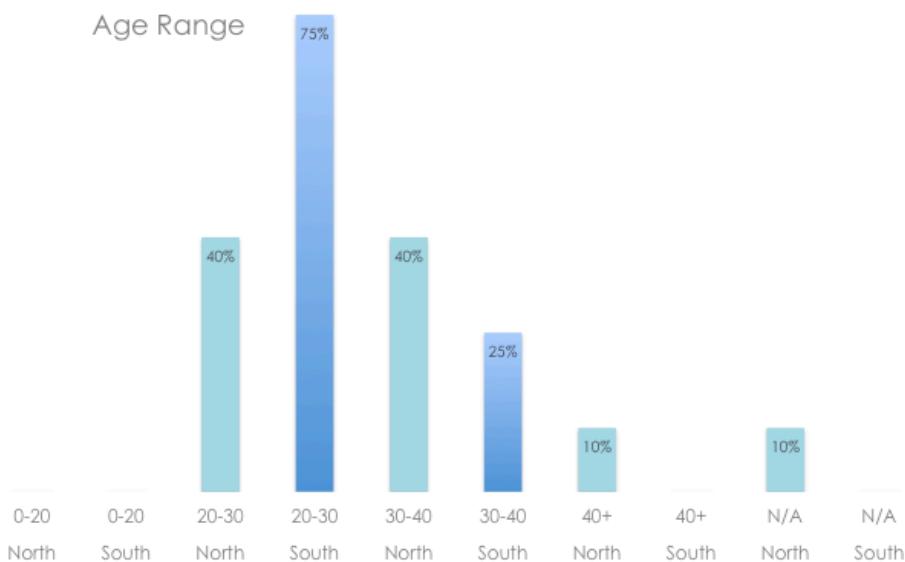


Figure 9: Percentage of factory workers (N=14) in each age range.

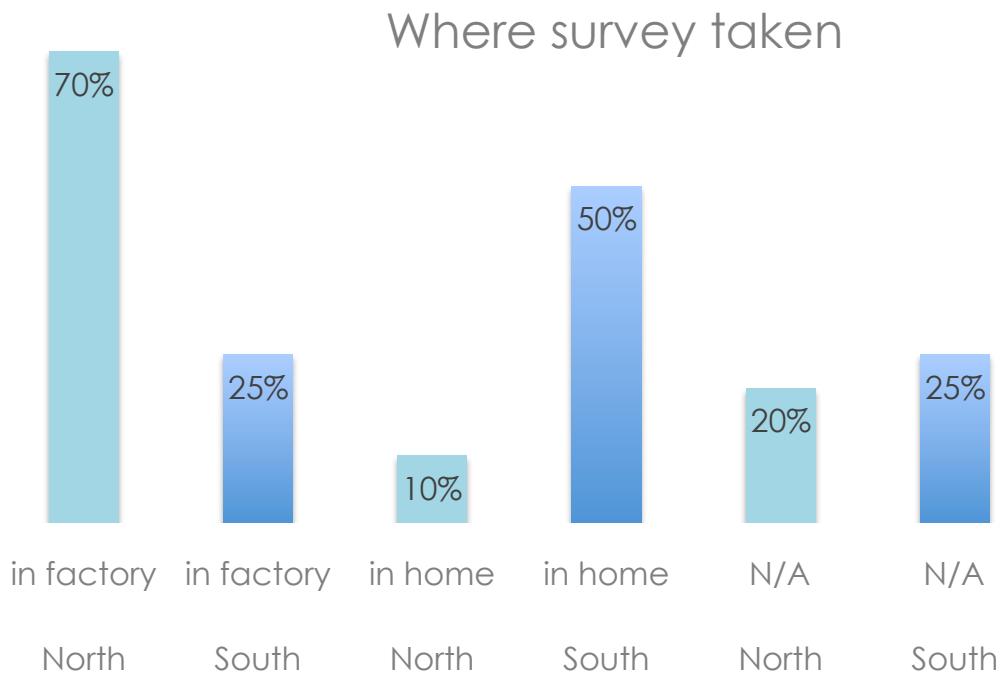


Figure 10: Percentage of the factory workers (N=14) who took the survey in the factory versus at home.