The Alan Turing Institute

The Risks of Interventions in the Indian Textile Supply Chain

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The Institute is named in honour of Alan Turing, whose pioneering work in theoretical and applied mathematics, engineering and computing is considered to have laid the foundations for modern-day data science and artificial intelligence. It was established in 2015 by five founding universities and became the United Kingdom's (UK) National Institute for Data Science and Artificial Intelligence. Today, the Turing brings together academics from 13 of the UK's leading universities and hosts visiting fellows and researchers from many international centres of academic excellence. The Turing also liaises with public bodies and is supported by collaborations with major organisations.

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1 Purpose

The current document was produced as part of a project titled "Resilience *in Value Chain and Worker Vulnerability Reduction - Trusted digital identity and payments in the supply chain*". The project ran from October 2020 to June 2021 and involved Traidcraft Exchange; Alliance Manchester Business School, and Incudeas Ltd.

The project formed part of the first wave of seven impact projects hosted within the overall Turing Institute, and Gates Foundation, funded "[Trustworthy Digital Infrastructure for Identity Systems project](#)"

The main purpose of the project was to investigate the status of homeworkers in the Indian textile industry, and how they might best be supported using digital identity systems. We have produced a total of four summative reports. While each report stands alone, they freely cite and complement each other.

The current report, "The Risks of interventions in the Indian Textile Supply Chain" focuses on the matter of risk and tries to identify the following:

- The potential harms that naive digital interventions in the digital supply chain might cause Homeworkers to suffer;

- The ways in which even a well thought out intervention in the digital supply chain might fail to improve the lot of the homeworkers;

- The practical obstacles that we would expect to encounter when implementing the range of technological interventions developed during this project.

The projects other reports include:
Informal workers in fashion supply chains - Preliminary Consultations to Inform a Tech-Assisted Support System, which describes the interview methodology and results used in the project.

A Use Case for Decentralized Identity at Work, which greatly develops the requirements from D1, to understand the needs, vulnerabilities and risks experienced by informal sector workers using a case study of female homeworkers in the Indian garment manufacturing sector.

Potential Solutions to Support Informal Workers in Apparel Sector Supply Chains - which builds on the other deliverables and presents a series of possible technology interventions which could be deployed to support the supply chain and in particular homeworkers.

2 Executive summary

The current project has focused on analysing the situation of homeworkers in the Indian Textile industry and investigating the potential for technology to support them. The idea of making supply chains digital is now well established, and at first sight there was a wide range of potential interventions for us to consider.

However, on further consideration, it became clear that the nature of the textile supply chain placed formidable obstacles in the path of any intervention that hoped the help the homeworkers. There are two major sources of these obstacles.

The first fundamental risk concerns the attitudes of western companies to the idea of homeworkers in the textile supply chain. In the worst case these companies view any acknowledged homeworking in a factory's supply chain as grounds for moving their business to other factories. These attitudes have led to a widespread situation where factories, while using homeworkers freely, refuse to openly acknowledge their existence.

Since any system supporting homeworkers automatically involves the acknowledgment of their existence, this makes it impossible to support the homeworkers without them losing their income. This clearly represents a fundamental block to any attempt to improve the conditions of homeworkers.

We have surveyed the reporting published by companies to try and judge the current magnitude of this problem, finding it to be improving but to still represent a formidable obstacle.

This specific risk is, in part, tangential to the detailed outputs of the current project. It will be faced by any attempt to improve the lot of homeworkers, and the only solution is patient campaigning work, such as Traidcraft's ongoing campaign.

The second fundamental risk arises because the homeworkers would be unable to directly represent themselves within any digital system constructed. As we discuss in this document, partly by surveying historical analogues, moving an informal supply chain digital can often hurt those at the bottom of the supply chain, especially when they lack such active representation.

The lesson that the project took from these sections was that any digital system that aims to help home works in the Indian Textile industry must be very carefully constructed. Naturally, we feel that our proposal solution, outlined in [2] avoids these potential issues and will genuinely help homeworkers. None the less, we feel that the current document is highly valuable in explaining why we have adopted the type of design that we have.

This system seeks to support the formation and operation of local self help groups. These can both directly aid the homeworkers, and provide them with the basis to actively participate in any digital solutions that arise.

Implementing such a system would naturally face many practical challenges and the document finishes by considering these. These split into risks that might hinder its implementation, and risks of the system failing to help the home workers.

3 Introduction

The issue of risk has been a major consideration throughout this project and has greatly shaped our chosen technological solutions. In the current document we identify several major, distinct, aspects of risk and address each in turn.

Chapter 4 of this document attempts to understand the risks posed by the attitudes of western companies to the idea of homeworkers in the textile supply chain. The major risk here is that Western companies will refuse to give work to any factory publically admitting to using homeworkers.

We do this by measuring the attitudes of companies to homeworkers in their reporting and in particular the numbers of companies that have constructive homeworker policies.

The second fundamental risk that we have identified is that many technologically plausible interventions in the textile supply chain might fail to actually improve the lot of the homeworkers. Chapter 5 attempts to define, and illustrate, the extent of this risk by analogy with several other historical examples of major digital interventions in similar supply chains.

Chapter 6 then highlights the primary reason that homeworkers are at such a risk of not benefiting from digital systems - the homeworkers are simply unable to directly participate in any digital system. We do this by studying examples of technologically obvious supply chain interventions and highlighting the effects of the absence of direct, active, homeworker representation makes them very unlikely to help the homeworkers.

The document then moves on to consider the specific design that we have developed in the project, namely the use of technology to support the formation and operation of self help groups.

This idea faces two major categories of risk. The first type, surveyed in Chapter 7, concern obstacles to its initial implementation, growth to a larger scale and long term sustainability. Risks considered include the potential confusion of self help groups with trade unions, data privacy and security and the difficulties of obtaining the ongoing funding required to stabilise the proposed network.

Finally, in Chapter 8 we consider the ways in which even our proposed system might be at risk of harming the homeworkers. While these last two Chapters offer few definitive solutions, the risks highlighted will strongly guide any future development work regarding this solution.

4   Company Attitudes to Homeworkers

The fundamental economics of the Textile industry make the use of homeworkers inevitable, and the homeworkers themselves desire the work. Homeworkers have always been used in the textile supply chain, and will be used into the foreseeable future.

Many companies however, and especially Western companies commissioning work for export from India, have reacted adversely to this. They see only the risks to their reputation from potential adverse publicity, in particular as they relate to child labour, and have attempted to impose blanket bans on the use of homeworking in their supply chains.

The result has been a situation where homeworkers are freely used in the Indian textile industry but many of the Western brands and Indian factories refuse to acknowledge their existence. This clearly represents a fundamental obstacle to any intervention assisting homeworkers.

Traidcraft have made transparency within supply chains a major goal for several years, for example with the toolkit they published in 2015[1] with Homeworkers Worldwide to support businesses constructively address child labour in craft supply chains and in the context of the Hidden Homeworkers project that they lead[2]. This project has produced one major report, [4]. A particular goal of all of these initiatives has been to persuade companies to adopt realistic, constructive policies for managing homeworkers, i.e. to accept

- That homeworkers are an inevitable, and desirable, part of the Indian Textile industry,

- That homework should be managed to improve the conditions of the home workers.

Nevertheless, as witnessed in the 2021 report, [4], produced by the Hidden Homeworkers project the attitudes of companies remain a very major obstacle. This report was based on fifteen interviews of people in the textile sector and found that the single most significant obstacle to transparency in worker supply chains was 'negative or mixed messages about homeworking' and the top facilitator was the presence of a home worker policy which 'Gives permission to suppliers to disclose.'.

Because the attitudes of companies represent such a fundamental obstacle to improving the lot of homeworkers, we have studied it in more depth here. We complement the interview work from the Hidden Homeworkers project through a quantitative analysis of company reporting disclosure.

We measured two aspects. The first was the degree of importance that companies placed on being perceived as proactively managing homeworking. We did this by studying formal company reporting, in particular how often companies mentioned their homeworker management policies.

The second was to try and directly estimate what percentage of companies ordering goods in India had indeed adopted a constructive homeworker policy along the lines above.

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[1]https://www.traidcraft.co.uk/blog-entry/traidcraft-launches-toolkit-to-help-stamp-out-child-labour
[2]https://traidcraftexchange.org/project-hidden-homeworkers

4.1   Company Disclosure, and UK Modern Slavery Reports

The idea that companies should perform due diligence for human rights risk in their entire supply chain was originally given notable expression in the UN Guiding Principles for Business and Human Rights[3]. In essence it says that companies should be obliged to perform due diligence on all aspects of their operations to identify human right risks and take appropriate measures to address them.

This basic principle has been taken up in a number of national laws, including the The California Transparency in Supply Chains Act[4] and the 2015 Modern Slavery Act in the UK[5].

4.1.1   The UK Modern Slavery Act

The UK Modern Slavery Act, passed in 2015, applies to all UK companies with an annual turnover of over 36 million pounds. It obliges them to publish a report on the actions they are taking to identify, and mitigate modern slavery risks in their supply chains.

The act suggests that a report should contain a description of:

The organization's structure, its business and its supply chains;

Its policies in relation to slavery and human trafficking

Its due diligence processes in relation to slavery and human trafficking in its business and supply chains;

The parts of its business and supply chains where there is a risk of slavery and human trafficking taking place, and the steps it has taken to assess and manage that risk.

Its effectiveness in ensuring that slavery and human trafficking is not taking place in its business or supply chains, measured against such performance indicators as it considers appropriate.

The   training   about   slavery   and   human   trafficking   available   to   its   staff.

The best repository of MSA statements – the Modern Slavery registry[6] - has to date tracked just over 16,000 modern slavery statements. The nature of their publication via public websites has meant that some of these have subsequently been lost. We have managed to capture a corpus of around 8000 statements, and converted them to text for analytical purposes. These reports cover a time span from 2015 through to the most recent reports.

How does this legal push towards due diligence and transparency relate to the question of homeworkers? It should be emphasised that homeworking is not a problem in itself. Rather the problem is unmanaged, unacknowledged home working.

As described by Traidcraft in [5], workers operating in such conditions represent a clear cut exposure to the risk of worker abuse and child labour. In an ideal world we would therefore hope to find that companies commissioning garments were being open about homeworking, and how they manage it, in their Modern Slavery reports.

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[3]https://www.unglobalcompact.org/library/2
[4]https://oag.ca.gov/SB657
[5]https://www.legislation.gov.uk/ukpga/2015/30/contents/enacted
[6]https://www.modernslaveryregistry.org/

Ideally this would involve the following items of information:

- Whether or not they source goods from factories in India (section 1);

- Whether or not their Indian supply chains will contain homeworkers (section 4);

- The steps they are taking to manage this risk, i.e. a homeworker policy (section 4).

The first, very basic, test involved searching the entire corpus of Modern Slavery reports to see how many contained mentions of either India or homeworkers. Doing this we found that:

- Only 274 (or 3.4%) of reports from 8000 mentioned India,

- Only 14 (or 0.2%) reports out of 8000 mentioned homeworkers.

These results clearly, on both counts, fall far short of the actual numbers of companies involved. For Indian based Homeworkers at least, the current attempts to impose transparency on the supply chains of Western companies fall far short of full success.

Of the fourteen reports that mention homeworkers, nearly all simply mention the existence of a homeworker policy, with some of the reports describing the policy within the MSA report and some referring to an external document. The use of external documents is a fully legitimate approach to writing an MSA report and these must be regarded as basically equivalent.

The Pentland Brands report published in 2018 stands out uniquely as describing significant, positive steps being made to actively improve the lot of the homeworkers in their supply chains.

These observations are consistent with the observation that, as noted by many respondents to the recent UK Government discussion of the acts effectiveness [6], many MSA reports fall significantly short of even the basic ideals of the act.

4.1.2 Indian Business Responsibility Reports

While there is no direct analogue to the Modern Slavery Act in India, the largest companies are obliged to produce Business Responsibility Reports (BRR). These originally started with the top 100 companies in 2012, extending to the top 500 in 2015 and an extension to the top 1000 companies is currently underway.

We have gathered a large corpus from around 140 of the largest companies, combined with about 19 reports from some smaller companies within the Textile sector. BRRs have a rigorous format which the companies must follow. In this there are multiple questions with obvious potential relevance to homeworkers:

- Principle 3: Businesses should promote the well-being of all employees

  ◦ "Please indicate the total number of employees hired on temporary/contractual/ casual basis" – Numerical answer

  ◦ "Please indicate the number of complaints relating to child labour, forced labour, involuntary labour, sexual harassment in the last financial year" – numerical answer

- Principle 4: Business should respect the interests of, and be responsive towards all stakeholders, especially those who are disadvantaged, vulnerable and marginalised.

  ◦ "Has the company mapped its internal and external stakeholders"

  ◦ "Out of the above has the company identified the disadvantaged, vulnerable and marginalised stakeholders"

  ◦ "Are there any special initiatives taken by the company to engage with the disadvantaged, vulnerable and marginalised stakeholders"

- There are also sections in which companies list their policies, and if they had a homeworker policy it would be reasonably expected to be mentioned here.

The BRR format therefore, while not actively compelling the inclusion of any content relevant to homeworkers, offers any company who actively wishes to discuss homeworkers considerable scope with which to do so. In particular, while homeworkers are never direct employees of the main company, any reasonable analysis would qualify them as relevant stakeholders within the textile industry.

Whatever the reasons, there are as far as we can tell, no mentions of homeworking of any form in our entire corpus of 751 BRR's. This corpus included reports by Textile companies, and other Indian sectors known to use homeworkers. It seems safe to conclude that at most very few large Indian companies actively wish to disclose their efforts to integrate, manage and help home workers within their BRR.

In fact, searching through a variety of other sections, this culture seems to go much wider – Indian companies seem to be very adverse to mentioning any kind of potentially negative story in their BRR's.

4.1.3 Homeworker policies

So far we have studied 'voluntary' company reporting – it is entirely possible that several companies were in fact working with homeworkers but not including it in this disclosure. The following search was designed to check for this.

We started with two websites listing a large number of fabric industry suppliers in Gurugram and Noida.[7] From this, a list of around 150 candidate Indian textile firms was gathered. These companies were searched on the open apparel registry[8] and those Western companies ordering from them noted. This gave a list of 34 Western companies known to have textile suppliers in the specific region of India covered by the current project. This included a number of major brands, and provided a solid sample.

We then performed a direct search for the homeworker policies of these 33 companies. We found results for 30 of them, with them splitting into three distinct groups:

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[7]https://www.onlineclothingstudy.com/2016/07/list-of-garment-export-houses-in.html;
https://www.fundoodata.com/citiesindustry/29/2/list-of-garment-textile-companies-in-noida
[8]https://info.openapparel.org/

- 10 companies had a 'positive' homeworker policy – one which acknowledged the existence of homeworkers in their supply chain, and were prepared to work to improve their conditions.

- 6 companies made statements that would have effectively banned homeworking in their supply chains.

- 14 companies were ambiguous – we could find no homeworker policy.

4.2   Discussion

It is clear that company attitudes to homeworking remain a formidable obstacle to assisting homeworkers. Firstly, it is clear that only very few companies actively wish to disclose its existence, and to develop and publish their policies for managing it. Despite clear opportunity in the formal reporting, no Indian and only a few Western companies acknowledge homeworking as existing.

Conversely, the news regarding which companies have adopted positive homeworker policies is rather more positive - one in three of the companies in our sample have done this. Unfortunately this leaves the remainder with either no policy or a policy actively prohibiting the use of homeworkers in their supply chains.

This group of companies represent a very formidable obstacle to mass scale adoption of any solution helping homeworkers – any factory acknowledging the existence of homeworkers in its supply chain would risk effectively surrendering between 1/5th and 2/3rds of its potential export market.

This is not an issue that can be solved with technology. Rather, before mass scale deployment of any solution can be considered, many of the remaining companies must be carefully persuaded to adopt constructive homeworker policies.

This can only be achieved through careful, ongoing, long term, programmatic, campaign and policy oriented work of the form that Traidcraft are currently actively engaged in. The situation has improved over time, and we expect this trend to continue as the campaigns continue to have the desired effect. Ideally this campaigning might be reinforced by appropriate Government action, although as seen even best practice legislation like the UK Modern Slavery act has struggled to make a major impact.

In the current state of the world however, the only possible approach is to attempt to deploy, and test, prototype solutions with carefully selected, willing factory/brand combinations and wait for the global situation to improve. This is the approach that we would envisage adopting when further developing our projects proposed solution.

5   The difficulties of digitisation

When considering digitisation it is easy to make the naive assumption that the digitisation of an informal supply chain will produce inevitable good for everyone within that supply chain. In fact, as we will show in this section, existing digitisation efforts in India have tended to act

to at least the initial detriment of the people at the bottom of the supply chains. This is not, in itself, surprising - many of the digitisation efforts have been initiated by the most powerful actors in the supply chains, and they have naturally tended to benefit themselves.

There has recently been a very major drive towards digitisation and formal bank accounts and away from less formal, money based supply chains in India. This has mainly been driven by the desire of the Indian government to have more visibility and formalisation.

One very relevant example of this has been analysed in very considerable depth by Silvia Masiero. In her words: "I have conducted extensive work on the computerisation of India's main food security programme, the Public Distribution System (PDS)". She has published a large number of papers on this, of which [7] summarises the direct results of her study and [8] contains an in depth historical background to the overall work.

Briefly, one major anti-poverty intervention by the Indian state is the distribution of physical, subsidised rations. In the process of running this supply chain, various forms of corruption cause them to lose over half of the goods. The intervention aimed to reduce this fraud by computerising the process and using biometric scales linked to the national Adhaar identity scheme in ration shops to authenticate the identity of people receiving the rations and the rations shared.

From the perspective of the top-level owner of the supply chain, this effort has seen mixed results. It does seem to have reduced some of the forms of fraud, but many of them either occurred in places in the supply chain not targeted by the system or have been reintroduced with minimal effort.

The question of most relevance to us is whether it has helped the people receiving the rations. The answer to this seems to be very equivocal. In particular it has introduced some significant practical obstacles such as periodic failures to recognise fingerprints when collecting rations.

Masiero describes another way in which people at the bottom of a supply can be disadvantaged in [9]. The idea of giving out the benefits as direct payments into bank accounts as opposed to subsidised goods has been raised. Maisero asked the women in receipt of the benefits which they would prefer and:

"But when asked whether they would prefer in-kind rations or an equal-value sum of cash to be credited on their accounts, beneficiaries unanimously declared a preference for the PDS as it currently is. As a woman in Kolar highlighted, reasons for this pertain to the secure materiality of rations:

'No Sir, ration, any day. The men in the house are all alcoholics – they will drink it (cash) all away. At least if we get ration, we have something in the house to eat. We don't need money.' "

Overall the situation here is somewhat equivocal. There can be little doubt that the Indian Governments ultimate goal of a fully digitised, monetary based system of benefits is a worthwhile one in the genuinely long term. This vision however lies some way into the future and in the short, or medium, term reaching this goal will involve considerable disruption, with much of the arising burden being directly borne by those at the bottom of the supply chain.

Similar results could be expected if we attempted to fully digitise the system of payments within the textile supply chain. While the eventual goal of a fully digital system, with automatic payments to homeworkers for each garment processed, has a definite attraction there is no road map to reach it without incurring substantial costs for the homeworkers.

An even more direct example of people with most power in a supply chain formalising it in a way that advantages them, rather than the lower level participants, is given in [10] where Krishna examines the effects of using a digital platform and payment system in order to formalise two more supply chains – cab drivers and home helps in India. Unsurprisingly, the results were, when judged from the perspective of the cab drivers and home helps, distinctly mixed.

It is then clear that the mere 'automatic' digitisation of informal supply chains does not automatically provide benefits to the people at the bottom of those supply chains. In fact, done without appropriate care or ulterior motives, it often ends up hurting them by further empowering the people who already take advantage of them.

6   The Absence of Digital Homeworker Representation

There is one very specific, and very substantial, problem with using a digital system to improve the lot of homeworkers in the Textile industry. They are simply unable to actively participate in any such system.

As was clear from the interviews conducted during the project, described in [1], the homeworkers are in no position to personally participate in any form of technological solution. Many of them even lack access to any form of smart phone. Managing any form of secure digital account, and in particular managing to recover it if their phone was lost, is simply not going to realistic in even the medium term.

This is especially true when the currently lopsided nature of Indian economic growth is taken into account. The dominant economic model leaves millions of the poorest households, including homeworkers, largely excluded from economic growth and its benefits.

By the stage that the homeworkers are capable of fully participating in a digital system, Indian society will also have changed fundamentally, and we must expect that the textile supply chain will, in turn, have changed.

In the current section we examine a few potential options for digitising the Indian Textile supply chain and demonstrate how this lack of active participation greatly hinders the use of digital systems to improve the lot of the home workers.

6.1   Making the supply chain visible via digitisation

One obvious idea is to render the existing supply chain into digital form, with full digital tracking of the garments as they move through the chain from Factory to home workers and back. Indeed such a system could provide a significant level of extra control, and visibility, to the Western Brands commissioning the garments. They are also very well established on a technical level, with solutions such as everledger[9] even able to reliably track the lifetime journey of individual items.

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[9]https://www.everledger.io/industry-solutions/diamonds/

The question then, is whether such a transformation would help the homeworkers themselves. As was discussed from the examples above it must be expected that the digitisation of the supply chain would introduce some barriers for the day to day work of homeworkers.

The information flows in the textile supply chain are described in some detail in [3]. For a brief summary:

1. The Western Brand (WB) orders X garments from Factory F;

2. F does the work to source and create X unfinished garments;

3. F contracts subcontractors SC1, SC2… to take the garments for finishing by homeworkers;

4. SC1 receives Y unfinished garments;

5. SC1 portions this Y garments out amongst a set of homeworkers HW1, HW2…

6. Each of HW1, HW2… finishes their set of garments;

7. SC1 collects the Y finished garments and delivers them to F;

8. F aggregates the finished garments from SC1, SC2… and sends them on to WB.

9. WB pays F for the finished goods.

10. F pays SC1, SC2….

11. SC1 pays HW1, HW2….

The need to deliver finished garments in the desired quantities imposes direct control on many of the transactions in this supply chain, and leaves the Western Brand and Factory secure against many forms of fraud. They must receive a set of finished garments before they will make payments.

This transparency however only operates on a step by step basis – the Western Brand has no visibility on the interactions beneath the factory and only the subcontractors and homeworkers have visibility on the interactions between themselves.

In particular, with the homeworkers not represented in the system, the only source of knowledge about the homeworkers – especially who worked on which garments – is the subcontractors. This is clearly very far from ideal.

While the relationship between contractors and homeworkers is far from universally exploitative, there are a variety of fairly obvious ways in which their interactions can become so. Moreover there are strong cost and time incentives motivating such behaviour from the contractors. Creating such a system with no homeworker representation would therefore be likely to result in substantial fraud by contractors, at the expense of the homeworkers.

6.2   Digital Payment and Work Assignment

One other area of potential friction in the supply chain is the way that contractors have the ability to assign garments to home workers in a very flexible manner. As described in detail in section 5 of [3], this gives them a lot of power over the homeworkers.

The contractors also manage the irregular surges in demand for work by keeping far more homeworkers on their books than are needed in normal times, thus leading to some homeworkers having little work for long periods of time.

Conceptually, one potential solution to this problem is to have the factories directly pay the homeworkers. The problem here is that, without the direct involvement of the homeworkers in the process, doing this also requires the factories to assign the amount of garments that each homeworker should do.

To do this they would need to know the currently free working capacity of each available homeworker. Without direct, active, homeworker participation this information is simply not available on any time scale, let alone real time. Fundamentally, there is currently no feasible option other than having the contractors flexibly assigning garments to homeworkers.

6.3   Discussion

The conclusion from the discussion in this Chapter is quite simple – in order for a digital system to hope to improve the lot of home workers in the Textile industry it must somehow grant them active digital representation.

The major technical difficulties faced in doing this for individual homeworkers was a very major motivation in the design of our projects intervention described in [2].

7   Challenges to our Proposed Solution

All of the above discussions, and risks, formed a major part of the motivation for the design of the system that we have proposed as a result of the project. As described in [2], and reflecting the nature of the problems faced by homeworkers, this is as much of a social intervention as a technological one.

The basic idea is to use a variety of social and technological interventions to support the formation of local self supportive groups of homeworkers. These groups can then be used to give the homeworkers a voice in a variety of ways. One immediate possibility is to support the submission of grievances and complaints, another is to gather basic aggregated data regarding the amount of homeworkers in the textile supply chain and how much work each one does.

In the medium term, if such a scheme was a success, it should be possible for the groups to provide representation for homeworkers within digital supply chain and payment systems. Even if not every homeworker was directly represented, this form of representation would enable many of the risks discussed earlier to greatly mitigated.

While our proposed system represents a sensitive, limited intervention in the textile supply chain its potential adoption faces some potentially formidable challenges.

7.1   Acceptance by Home Workers and Contractors

While our proposed system is design specifically to help home workers in the textile industry, they are busy people leading a stressed existence. Their participation in such a scheme is thus far from automatic.

We therefore asked a number of questions to judge their acceptance of these ideas as part of the work reported on in [1]. As described in response, the workers had some knowledge of collectives, and it seemed like they might join if they could see potential concrete benefits. A definite note of cynicism regarding the ability of the groups to help was also observed: "*if there is nothing to gain by registering, there is also nothing to lose for these women*".

Overall, while significant care and dedicated community engagement work will be required to attain broad scale uptake, it does appear to be realistic to hope to eventually achieve this. The precise nature of the optimal approaches here is something that is best determined in our proposed second phase of development. We hope that this will include extensive hands on co-design with the active participation of home workers.

The contractor[10] who we interviewed seemed, in principle, open to registering with the group but wasn't very sure as the potential costs and benefits remained rather unclear at this point. This area will again need significant amounts of user engagement in the second phase – the supply chain will not operate without the contractors.

7.2   Acceptance by Indian Companies

One other group who will need to accept, and participate, in our system for its success are the textile companies within India. As noted by a respondent in [1], "*their contractors and people higher up the supply chain should not see it as a threat. If that is not the case, registering will not be a problem*".

The principal way in which we hope to smooth this acceptance is to also offer a definite win to the Indian companies from adopting the system. We will offer the Indian companies an efficient way to gather information about the homeworkers that they are employed, and any grievances that might arise.   Again, the precise details of how these systems might work will be worked out in the next phase of our design.

There is however one major social risk faced by our system in gaining acceptance. That is that the 'self help groups' that it aims to promote might be viewed by some textile companies as being closely analogous to a traditional Trade Union.

The trade union movement in India has a rich history, with Bose in [11] describing its origin within textile mill workers between 1915 and 1920. The development of the trade union quite quickly entangled with politics, as Ali describes in [12].

While the trade union movement remains a powerful force in sections of India it has become a very controversial topic in the modern textile industry. For example, [11] describes a number of cases of factory workers being dismissed for merely asking for better conditions.

Additionally, Fair Wear in [12] describes talking to thirty representatives of suppliers and brands to talk to trade union representatives. This was described as a very delicate task, with the supplier representatives being apprehensive that:

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[10] See [1] or [3] for detailed definitions of the supply chain
[11]https://scroll.in/article/867230/in-indias-textile-industry-labour-unions-are-facing-employers-wrath-for-demanding-their-rights

"unions would demand higher wages for workers, which suppliers could not afford to pay unless buyers raised their prices; if unions encouraged strikes then suppliers' productivity would go down and they may lose customers; unions might go to the international media with negative stories, which ultimately could hurt not only the supplier but the Indian garment industry as a whole."

Interestingly, and linking very strongly back to the discussion about the need for explicit positive homeworker policies, these worries appear to be principally driven by the fear of how the commissioning Western brands might react rather than a desire for excessive personal profit. FairWear describe fuller discussions as helping to reduce some of these fears.

FairWear have also published a much fuller survey of the state of the Indian Textile industry, [13]. This describes the overall level of unionisation as under five per cent, and very few trade unions active within the factories they audited. They also list a variety of grievances, poor working conditions and cases of workers trying to join trade unions being dismissed.

This story is echoed in the report from the business and human rights center into union busting in the Asian garment sector, [14]. This lists an extensive number of cases where companies have apparently taken advantage of the Covid situation to fire unionised members of their workforce.

Overall, it is clear that the idea of unionisation by 'formal' sector textile workers inside factories is currently viewed with extreme scepticism by the factory owners. While homeworkers form a very different sector of works, the sentiments are similar and the risk here is clear.

Conversely, and more positively, organisations like SEWA[13] demonstrate that the idea of informal workers banding together for self help and mutual support has considerable acceptance within India. Our challenge then is to make sure that the presentation of our technical idea is associated much more strongly with these ideas than with formal unions.

One way in which we will do this will be through careful choices of terminology. The precise phrasing to use to describe the groups will be part of this. We are currently leaning towards Community based organisation.

We also hope to be able to emphasise how the self help group focuses on a wider range of issues relating to the life of a homeworker, rather than very work specific issues. The precise details of the development of these elements in the proposal will be worked out in the second phase of design, and can be expected to prove critical to its potential future success.

7.3   Acceptance by Western Brands

As with the problems of acceptance, and uptake by homeworkers, it is by no means automatic that Western brands will react positively to our proposed solution. Indeed the discussion in Section 2 demonstrates very clearly that, at present at least, many brands would not react well.

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[12]https://www.fairwear.org/stories/fair-wear-brings-unions-and-suppliers-together-in-north-india/
[13] https://sewabharat.org/about-us/sewa-movement/

For the purposes of the current discussion we make the assumption that we are only working with brands that have a positive homeworker policy. The basic acceptance of the system by such companies seems likely – as designed it will help them be aware of, and manage, the use of home workers in their supply chain.

A more major question arises concern the potential to fund the network, which is discussed in the next section.

7.4   Financial Sustainability

One other major challenge faced by the proposed solution will be finding a funding source to make it sustainable in the long term. While our envisaged network would not be expensive to run, there would inevitably be some ongoing costs needing covering with revenues.

Even the most basic version of the network will offer real advantages to the homeworkers forming its membership. However these homeworkers, who would form the membership, are too poor to form a viable source of revenue.

The combined network must therefore offer a service to either the factories, or the Western brands. We have considered various options, each of which would need careful trialling in practice to see what works.

One option under active consideration is to use the self help group to function as a means of reporting grievances by the homeworkers. While it is possible the factories in India might wish to fund such a system, this is unclear. The overall corporate culture in India appears to lean much more strongly to concealing grievances than thorough openness.

In addition the textile factories in India are often working to very tight margins and do not possess huge reserves of capital, or free revenue.

The only truly promising source of potential revenue to secure the long term operation of the system would then appear to be Western brands. Happily, the system should be in a position to offer them a specific service of potentially very high value.

Namely, once the system is established and operating at genuine scale it will be able to generate a large amount of aggregated, anonymised, data regarding how many homeworkers there are, how much work each one does etc. This information is currently formidably hard to capture, and would represent a valuable resource for Western brands.

The precise details of how this might work is again a matter that will require careful investigation during any future prototyping work. Additionally, this benefit will only truly accrue once many homeworkers have signed up to the system, leaving the question of how the systems spread might be funded, and boot strapped, open for further investigation.

8   Potential Risks of Adoption

While our proposed system has been intelligently, and sensitively designed, there are none the less some areas where its adoption would risk adverse consequences for homeworkers. Here we discuss the most major ones.

8.1   Loss of Work by Home Workers

The most major risk arising from the proposed system would be if we ignored the message from section 2 – if Western companies remain actively against the acknowledgment of home working in their supply chains, then the proposed system could lead to them withdrawing orders from any factory using it.

This would, in turn, lead to the homeworkers losing work. The project partners are very strongly aware of this issue and will be very careful of it during any future development, and prototyping work. In addition Traidcraft are actively campaigning to increase the number of Western companies adopting 'positive' homeworker policies.

The hope is that, by the time we are looking at a potential real world deployment of our system, this work will produce a critical mass of companies willing to engage with the presence of homeworkers in their supply chains, and improving their working conditions. As discussed earlier, this campaigning has already produced progress meaning that this hope appears quite realistic.

8.2   Privacy and Data Security Risks

A second major source of potential risks with our proposed solution regards the privacy of any information gathered by the self help group about the homeworkers that form its membership. We plan to gather two basic categories of information:

- Sufficient data to recognise people as a member of the self help group,

- Some data regarding their work as homeworkers – how many garments they have done in a given time period, how well they were paid etc.

The first group of data is potentially sensitive due to the reactions around Union membership noted above – it seems likely that many homeworkers might only be willing to join if their membership can be concealed from the subcontractors and factory owners.

Happily the situation with the self help groups being very strongly locally based, and people reporting to them in person rather than online and being recognised by people who know them, makes this particular data security problem relatively straightforward.

The second class of data is much more problematic. It is very strongly desirable to collect this data so that it can be aggregated, anonymised and sent up to the factories, brands and NGO's such as Traidcraft to inform intelligent decision making.

On the other hand it must clearly be kept strictly anonymised starting from its initial submission, as even at the local level it might easily cause jealously and infighting. The question of how such data might be best safely gathered remains open at the present time.

The ideal solution would be to use technology such as Self Sovereign Identity[14] which would enable people to validate themselves as being part of the self help group, and to submit such information regarding their work, without having to identify themselves in any way.

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[14]https://sovrin.org/

The drawback to using this technology in the current context is that the users will not be able to actually manage their accounts themselves, but they will instead have to appoint a trusted organisation to do it for them. One thing that has yet to be determined is whether this organisation would have to be the local branch of the self help group itself, or if any other possibilities suggest themselves.

Overall, while the challenges of data privacy faced within our envisaged system is very real, they also seem to be definitely soluble in a technological sense. The challenge will lie in finding a socially acceptable solution, which will be a matter best resolved with user involvement during prototyping.

9 Conclusions

As the current document has shown, while there are a number of opportunities to make potential digital interventions in the Indian textile industry supply chain, there a number of factors meaning that many of these ideas would be unlikely to improve the lot of homeworkers.

Ultimately, unless the homeworkers have a strong, active, representation in the digital system that is constructed it seems unlikely that they will benefit from it. This has led to us proposing the system described in [2] which aims to support the creation of self help groups.

Even this technologically modest intervention faces some formidable obstacles to its potential ultimate deployment:

- Most critically, while there has been good progress with the adoption of constructive homeworker policies in recent years, there are still many Western brands and Indian factories who refuse to acknowledge the existence of homeworkers in their textile supply chains.

While this attitude prevails, any interventions will inevitably be limited to testing with a known safe set of factories and constructive brands. There is a clear need for ongoing campaigning in this area and Traidcraft plan to continue their ongoing campaigns in this area.

- There appears to be some risk of the systems approach of generating self help groups becoming entangled in the bad attitudes and politics around unions in the Indian textile industry. While we expect that we will be able to emphasise the differences in our approach, doing so will require careful, ongoing work.

  We will conduct trials to determine precisely what form presentation will most easily gain acceptance.

- The need to attain ongoing funding to both develop and maintain the system might pose a genuine obstacle. We hope that once set up at scale the system will be able to generate a useful amount of income by selling the anonymised data that it generates, but this assumption requires testing.

  In addition, the system will need to reach this scale and this will in turn need funding. It is rather less clear how this process might be realistically funded.

In summary, we feel positive that these obstacles will be able to be overcome, and that the system will be able to make a genuinely positive impact to helping homeworkers in the Indian textile industry.

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