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Resilience in Value Chain and Vulnerability Reduction:

The Role of a Trusted Digital Identity and Integrated Supply Chain and Payment System

Authors

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Table of Contents

1   Purpose

This is a project report of the 9-month pilot investigation into *Resilience in Value Chain and Vulnerability Reduction: The Role of a Trusted Digital Identity and Integrated Supply Chain and Payment System* as part of the Trustworthy Digital Infrastructure for Identity Systems project. It condenses the experience learned and the complex issues considered over the last year. It reflects the thought process of the author and may not concur with the views of all members in the research team.

2   Project Management

This project produced four outputs: a survey of homeworkers (Choubey, Khumallambam, Mani and Preece, 2021), a dossier on a decentralised and distributed infrastructure for supporting the actors in the network of supply chains (Hickman, 2021), an analysis of the potential risks of intervention (Carpenter, 2021) and a roadmap of potential solutions (Spencer, 2021). This is the outcome of no less than 60 zoom meetings from 17 June 2020 to 30 June 2021. The team in India was tasked with the survey while Incudeas investigated the feasibility of various technological solutions and digital inclusion.[1] Towards the last few months and before the project ended, Traidcraft India and their consultant were instrumental in arranging meetings with three brands (…), two suppliers (…),trade unions (SEWA), MSI/MSF (FairWear Foundation), platform provider (Ulula), local textile supply chains expert and other NGOs (SABAH, SAVE at Tirupur, Mekong Club). We have also participated in several webinars organised by the Hidden Homeworkers Consortium (Traidcraft Exchange, Homeworkers Worldwide and HomeNet South Asia).[2]

The management of this project was fraught with many challenges. First, the signing of the grant contract was delayed for three months due to the covid disruption at the legal offices.[3] The survey work in India was put on hold in late 2020 when the covid situation alerted the UoM Risk Assessment Team to demand a safety plan and series of precautionary measures to prevent the researchers conducting interviews from being infected. The second disruption took place in January 2021 when UoM research office demanded a detail data and privacy protection plan as the survey involves collecting personal information from a vulnerable group. This has caused a lengthy revision of the contract with the subcontractors by the UoM legal team. I am grateful to the resilience and perseverance of the research team, and especially colleagues at Traidcraft India who had to endure the very difficult working condition at the peak of their covid outbreak more recently.

3   Research Findings

The survey conducted by Choubey, Khumallambam, Mani and Preece (2021) is based on the interviews of 35 textile workers in Karas Hera, Delhi, and 5 leather workers in Ambur, Tamil Nadu. The sample is smaller; 8 and 2 respectively, at these two locations at phase II interviews

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[1]   From here onwards, we will refer to this group of researchers as the "Turing Team".
[2]   https://traidcraftexchange.org/project-hidden-homeworkers.
[3]   This explains why the first team meeting was on 17 June 2020 instead of a date in October 2020 at the contract start.

when the covid situation worsened in India. Many homeworkers are heavily indebted, especially now with the covid pandemic, and homeworking income, although meagre and scarce, is an important livelihood for this vulnerable group. It is precisely this indebtedness, often to the grocery stores in the neighborhood, that caused us to abandon the original plan of using the grocery store as one of the possible payment outlets. It is obvious that the grocery stores will simply collect their debts instead of passing on the cash. Choubey et. al (2021) concluded that a key reason for their plight is that the homeworkers are not organised and unrepresented. Indeed, a homeworker requested, at a webinar organised by the Hidden Homeworkers Consortium, to be formally recognized as part of the legal workforce and be entitled to social welfare provision. Therefore, the issue here is not that these women are lacking a digital identity since they are all in possession of an Aadhaar card and many of them have a bank account;[4] what truly needed here is a formal identification of the homeworkers as a legal workforce in the supply chains system.

3.1   A Collective

The lack of coordination of homeworkers leads to a key recommendation of adopting the Self-Help Groups (SHG) model, a social structure that is common in Ambur, where women sometimes conduct saving-loan transactions among themselves (Choubey et. al, 2021). If we define a collective as a collection of many local SHGs, there are many useful supporting roles this collective may deliver, but the most important of which must be to help the illiterate homeworkers with no smart phone nor internet to onboard the digitized version of the supply chains. A sample of 10 phase II interviews suggests the response to the collective initiative was mixed (Choubey et. al, 2021). Some women cannot envisage how this collective works but thought it may be a good idea if the collective can help them get work or support them through covid. There are other stigmas; concerns about being seen as troublemakers by people higher up the supply chains, women with young children, Muslim minority, husband's, family's and even the landlord's attitude could all deter the women's registration with a collective. A female subcontractor was suspicious that the collective might take away her livelihood. A CSO (Civil Society Organisation) suggests that a lot of rapport building effort is needed to build trust; these women do not easily trust a new organization or a new set of people. As Carpenter (2021) pointed out, the proposed solution is as much of a social intervention as a technological one. Wherever possible, one could use the existing local CSO or local informal workers organisations as the SHG (and data controller). It is important then to ensure interoperability between SHGs, especially if they do not belong to the same CSO. Ideally, and to minimise data risk, the PII will be anonymised passed SHGs, and the "collective" is reduced to an aggregate data handler.

Due to their vulnerability, anonymity and privacy are important attributes for the homeworkers, without which they do not have the confidence to chase late payments, expose sexual harassment cases etc. They are even reluctant for the collective to act on their behalf if there is any hint of losing their livelihood or creating tension in the community. Harassment is a very serious matter. Any proposed solution should involve experienced social workers such as SAVE in Tirupur. The technological challenge is much lighter in comparison.

The considerations for registering the contractors are different. In some cases, the male contractors act in a manner closer to a factory, while a female subcontractor's position will be

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[4]   Most women have bank accounts. These are mostly accounts opened under GOI's "Jan Dhan" scheme. It is a universal banking, financial inclusion program.

more akin to a homeworker. The latter could choose to register with a SHG, while the previous may onboard the digital supply chains like the factories. The contractors will need some reassurance that their roles do not become redundant in the new scheme. Some suppliers and brands emphasized that the (sub)contractors are critical in the complex, seasonal and real time process of work distribution, quality control and delivery. Once the homeworkers are onboard via SHGs, the (sub)contractors become the next weakest link; further considerations are needed here so as not to jeopardize this important population in the chains.

3.2 Personal Data and Supply Chains Mapping

Dynamic supply chains mapping is an urgent task, needed to persuade the brands to buy into the open homeworkers' policy. All brands are only concerned with those homeworkers in their supply chains. This traceability is especially important when dealing with harassment cases. Covid has seriously disrupted the supply chains severing the links between homeworkers and the brands. One could wait for a top-down approach for the brands to re-establish the supply chains. A faster bottom-up approach is to feed the information about the homeworkers and their skill sets upstream. The Turing team could facilitate the latter in Kapas Hera for the textile supply chains, and in Ambur for the leather supply chains. This registration and on-boarding process could combine with a "*Buy from Homeworkers*" initiative in the UK, see details in Section 4. The implementation, if successful, should scale to other locations and for other supply chains.

The respondents at the phase II interviews said they would trust the _known_ NGOs/trade unions and the *collective* to hold their PII even though the government is the body they most trust. They do not trust any other organizations (viz. banks, suppliers, brands, contractors, and government?) to hold their data.[5] The homeworkers may not appreciate how the aggregated data is used, but they would like to understand the potential benefits of this data collection to them. Some women do not wish to share their Aadhaar card and bank account number. It might be possible to erase this information after making the first verification. The Data Protection Laws must protect the storage and usage of PII by all data controllers and data processors respecting the different jurisdictions along the supply chains. In addition, one should apply more stringent ethical codes due to the vulnerability of the subjects.[6]

3.3 Acceptance by Western Brands

Carpenter (2021) identified 113 textile retailers in the Noida-Gurgaon area from the open apparel registry,[7] and 33 Western suppliers/brands were found to be connected with them through the supply chain but only 30 have records in the public domain. Of the 30 companies, 10 were identified to have openly adopted homeworkers' policies, 6 made statements that would have effectively banned homeworking in their supply chains, while 14 were ambiguous on the matter. From this sample of 30 firms, it means that any factory acknowledging the existence of homeworkers in its supply chains could risk surrendering between 1/5th (i.e., 6/30) and up to 2/3rds (i.e., 20/30) of its potential export market. We do not claim the evidence here extrapolates to the 8000 UK businesses in our database. Nevertheless, this serves to

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[5]   When first asked who they trust, all homeworkers said they trust the government most. But in a subsequent question, one or more respondents said they do not trust, among others, the government to collect data.

[6]   It is a bit complicated situation here when trade union membership is also a PII. Using the trade union as a data controller might compromise the subject's privacy.

[7]   https://info.openapparel.org/

illustrate the serious and real threat to our effort in Kapas Hera and Noida in bringing the homeworkers to the surface.

Despite this, it is widely accepted that a sustainable model must be one that is owned by the Western brands. The pressure of modern slavery due diligence is real for the Western brands (in UK due to the 2015 Modern Slavery Act). A past implementation where the NGO, representing the homeworkers, distributed the works for the brands and suppliers has been proven not to work. The local MSI (Multi-Stakeholders Interest) group's effort clearly focuses on international export markets. Fair Wear Foundation stresses that one should cater for every worker instead of only those in the global value chain. A bottom-up approach in conjunction with the top-down approach is less likely to leave out anyone. One UK brand commented that about 10% of their products are sourced through "Agents" who have been known to be reluctant to reveal details of the supply chains. We have not included any Agents in our study.

3.4 Interests from Suppliers

The three suppliers, due to our sample selection bias, are more progressive in upholding labour rights, and have years of experience in handling homeworker issues. One of them has collected extensive data on the homeworkers including the age of their children knowing that they there is a risk of child labour. Given their already sophisticated provision, we need to find sufficient motivations to incentivize them to join the initiative. Apart from collecting information to derive hourly/piece rate, number of hours worked, working conditions (e.g., poor lighting) and long-term health effect, one supplier suggested that information collected could also be used to improve production efficiency. For example if a job is taking too many hours, one could check if the homeworker is doing the work in a correct and efficient manner. This supplier also expressed the willingness to improve the basic health care and work insurance for the homeworkers. These are possible only if the homeworkers can be traced in their supply chains.

3.5 Digital Readiness

Almost all women interviewed have (access to) mobile phones,[8] and some have smart phones. The ownership of smartphone by these women has increased as the children's education has moved online during the covid pandemic. With their Aadhaar card, the homeworkers understand how fingerprint and iris scan are used in identification. The women are familiar with IVR (Interactive Voice Response) technology as they use it to order LPG gas cylinders. Most women with a smartphone did not know how to access the internet or use internet-based applications such as WhatsApp or Facebook. It was mostly younger women, ranging from 24 to 30 years of age who expressed a certain degree of familiarity and comfort in using smartphone technology. They are all very eager to learn new technologies and new skills especially with the Indian government's digital policy; all government services in Tamil Nadu are now available through e-*sevai* portals.

While the homeworkers indicated that they prefer to be paid in cash, there is a very real chance of digital payment solutions being adopted in the textile supply chain. One supplier, we consulted, was a strong advocate for this. Nearly all homeworkers have Aadhaar card and a bank account. Indeed, there are significant potential transparency and traceability advantages. But as discussed in Carpenter (2021), if the homeworkers lack a strong representation in the

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[8]   It is mandatory to register a mobile number with the Aadhaar card.

digital supply chain, their voice will be excluded, and they will be exposed to exploitation. This then leads on to another critical role for the SHGs – they provide an effective route to support homeworkers with meaningful, active, digital representation within any digital solutions that develop.

4   A Way Forward

Solving the homeworkers' livelihood issues is complex and risky (Carpenter, 2021). The complexity of the supply chains and the complex composition of the homeworkers suggest the solutions must be decentralised and distributed (Hickman 2021). Spencer (2021) documents a detail roadmap of the potential solutions for the community and supply chains that the Turing team has helped to produce. The natural next step is to use Kapas Hera and Noida as the pilot sites for testing prototypes. Given that the supply chains are already seriously damaged due to covid, we propose a bottom-up supply chain mapping as the first step, by registering the homeworkers into appropriate self-help groups, many of which will be existing civil society organisations (CSOs). The labour supply information is then fed upstream to targeted brands with an initiative to "*Buy from Homeworkers*" in organised meetings and social media. A lot of funding support will be needed, as it is less likely that brands and suppliers will fund all, if any, the bottom-up infrastructure.

It is very important that the consortium must include CSO, suppliers, and brands as well as the project initiators (e.g., an expanded version of the "Turing Team") in designing and building the prototypes. A longer-term outcome is for the CSOs to be the data controllers while the brands own and fund the relevant part of the digital chains. An efficient version of the *collective* should reduce to a network of servers regulated by the governance codes in the relevant jurisdictions. These could be planned and negotiated while the bottom-up approach is being established.

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