Reflections on AI and Community

Notes inspired by the Data Communities for Inclusion Project

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Published January 5, 2025

Abstract

This piece shares four reflections by attendees at the Data Communities for Inclusion workshops. They are personal in nature, offering experiences and opinions about artificial intelligence and data technologies and their impact on communities. These reflections are not intended to represent a unified position or to summarize the work of the DCI project, but rather to share the specific emotional and creative concerns of individual practitioners who are working on the ground as software developers, designers, and policy advocates.

Introduction

The Data Communities for Inclusion Project

From 2021-2024, the Data Communities for Inclusion (DCI) Solution Network project examined how the organizing principles and decision-making practices of worker-owned cooperatives and other grassroots communities can provide viable, sustainable, and more equitable ways to design data and artificial intelligence systems. The DCI project proposed a participatory framework for artificial intelligence design that focuses on the social and material conditions under which these technologies are created and governed today, and articulates how communities can lead the design process to create technologies for their benefit.

In support of this effort, Data Communities for Inclusion engaged in four primary activities:

1. Advocating for community-led decision-making and ownership of data and Artificial Intelligence systems by workers, and for the importance of lived expertise leadership in the technology design process.

2. Devising new methods of practicing community-led design and collective decision making for technology.
3. Designing and prototyping low cost, small scale, ownable data management technologies to support reaching new markets with the direct leadership of members of the Self-Employed Women's Association cooperatives.
4. Creating and sharing an open access toolkit that provides perspectives on AI and data technology ownership, case studies in cooperative decision making, and practical guides for how to apply community-led design and development techniques, available at https://datacommunities.ca/toolkit/.

During this time, the DCI project convened six workshops that brought together activists, technologists, designers, members of worker cooperatives, and researchers with lived experience to share techniques, challenges, and case studies. These workshops contributed to the debate on AI technologies within the global platform cooperative movement and helped catalyze a larger network of contributors to the project's governance toolkit.

AI, Labour, and Inclusion

Artificial intelligence platforms and the data extraction practices that underpin them are having significant impacts on work globally. The harmful effects of these technologies and the economic ideologies that enable them are felt most significantly by women, disabled people, racialized communities, and the working class—especially those who experience intersecting forms of marginalization. While the popular discourse about artificial intelligence oscillates wildly between the liberatory and the catastrophic, a significant amount of attention orbits speculatively around a future of Artificial General Intelligence (AGI) and "superhuman intelligences." Unsurprisingly, this rhetoric is actively encouraged by tech industry executives, where exaggerated expectations of the capabilities of technologies help to shift attention away from harms experienced and deflect methodological and structural critiques of how these technologies are made today. In contrast, the DCI project has focused on developing actionable methods and tools that support direct ownership of technologies by communities.

In India, the work of the Data Communities for Inclusion project has occurred within the context of a rapid process of digitalization accompanied by growing inequality for informal women workers, many of whom lack access to technology and the necessary digital literacy to use it for their own benefit (Singh 2010). Here, the proponents of artificial intelligence promise benefits to workers in many sectors at the cost of forfeiting access to the value of their data and autonomy over it. The conventional methodologies used to research, design, and deploy AI and data systems are laden with colonial and gendered oppression, resulting in technologies that fail communities in both subtle and dramatic ways.

Artificial intelligence is part of a larger effort within platform capitalism to erase the significant human labour and ecological resources that invisibly power these technologies, and to undermine stable working conditions and liveable wages. This invisible infrastructural labour, as with much work in the platform economy today, is predominantly done informally and by workers in low or middle income countries, as well as by low-income workers in wealthy countries under increasingly precarious "gig economy" circumstances. This intolerable situation points to a shared solidarity among workers globally, and to the need for worker-led technology initiatives that can improve working conditions, address local community benefit, prevent continued income polarization, and rebalance technology's contribution to climate issues. In short, there is a need for structurally different approaches to the dominant platform capitalist approach to designing and governing these technologies.

The essential position of the Data Communities for Inclusion project is that AI will continue to perpetuate and amplify harms against equity-denied groups until it is designed and governed by those who are most impacted by its use. Lessons for how to do this can be learned from the work of grassroots organizations, unions, cooperatives and individuals with lived experience on the margins. Worker-owned cooperatives, such as those that comprise the Self-Employed Women's Association, have organized the economic participation of over 2.9 million women workers over more than 50 years. SEWA, and others like them, have much to teach the designers of emerging technologies about how to create and govern systems that are more equitable and inclusive.

Over the course of three and a half years, the DCI project refined a critical distinction between inclusion and ownership. Where we initially understood our position as an extension of inclusive design—the process of including marginalized communities in a technology design process that ultimately was not their own—we learned as a result of experiences in collaboration with NGOs and other grassroots organization (both positive and negative) that structural access to substantive ownership over both the process and the products of a decision process is the necessary precondition for any inclusive design process to be more than just token. As a result, we grounded the project's design methods and recommendations in the decision-making cultures of the communities who we collaborate with—especially the approaches of SEWA's cooperatives. The value of such preparatory work is often difficult to measure directly, yet our hope is that the tools produced by the Data Communities for Inclusion project will serve as one of many starting points for finding a new ethics of practice that is directly rooted in collectivist reconceptualizations of technology practice.

Adrienne Williams - A Fair Living Wage for All

Editor's Introduction

Adrienne Williams is a researcher with the DAIR Institute who has worked as an Amazon delivery driver and educator. Her research reveals the ways that the platform economy and artificial intelligence imposes constant surveillance and intolerable working conditions on delivery drivers, private charter school educators, warehouse workers, and other informal and precariously-employed workers. Her piece reflects on the interlocking systems that reinforce poverty in America and enable theft of wages from workers by wealthy tech companies—policies that are openly advocated for by the wealthiest CEOs in America. Williams proposes that state enforcement of labour rights and more equitable taxation policies can help to rebalance the economy.

Government oversight is more important than ever, as the hype around artificial intelligence grows, Venture Capitalists and tech CEO's push for the expansion of AI into health care, law, education and other public systems. They spin tales of how AI will be humanity's savior. Though the technology is fairly new on the commercial end, the mistakes of the past that hold profit up as a guiding principle for success are a tale as old as time. Powerful people and decision makers looking up to their financial guiding light are missing or purposefully stepping over the dead canaries in their path.

CEO's like Sam Altman (OpenAI) have warned that most jobs will be replaced by artificial intelligence. Companies like Amazon and tech leaders like Elon Musk have openly (and illegally) fired, targeted, and intimidated organizing workers. Companies like Meta are trafficking human beings in Kenya to work at their content moderator sweatshops, and Bill Gates and other major funders are actively and methodically burning down public education systems all over the world.

This may appear to be an issue of labor rights and education reform (which it is), but it is also an issue of humanity's inability to end forced labor and colonialism. Those of us living in wealthy countries enjoy the benefits of a carefully curated online experience, products on demand, and knowledge at our fingertips. We cast judgments onto other less privileged countries for human rights abuses and lack of innovation. But, the Silicon Valley tech industry is utilizing and actively participating in perpetuating human rights abuses across the globe. And, the illegal allowance of monopolies in the US has stifled innovation world wide.

Countries and workers are pitted against each other by pointing out that workers in the US make $15 an hour for labeling data and workers in Venezuela or Kenya are paid $2 an hour for the same job. It is conveniently left out that $15 an hour in the US is still a poverty wage that often leaves workers homeless. The issue is that poverty is poverty plain and simple. While our governments allow for funding and wages to be set based on arbitrary poverty levels; They ignore the cruelty involved in forcing people to be exploited by companies who barely pay enough to survive. This leaves people metaphorically hanging from the side of a cliff by their fingertips.

The richest companies in the world are allowed to pay poverty wages while taxpayers and charities across the globe subsidize the survival of workers and their children. Before we begin having conversations around taxing corporations on a global level or even on the once radical notion of Universal Basic Income, let's first focus on the fact that many people would not find themselves in need of charity or entitlements if their employers paid them appropriately.

Taxing these companies more is not necessarily the solution. Even if taxing companies more, brings in more revenue to governments, the corruption infesting most governments will not allow for that money to be distributed fairly and will deny funds to those who need it most. If corporations don't feel obligated to pay a wage that allows employees to live without constant struggle currently, why would they help governments in funding UBI programs that pay people enough to not just survive, but to actually live?

In the 1960s Martin Luther King Jr. called for the use of Universal Basic Income programs as a way to eliminate poverty. Today, we have tech Billionaires like Elon Musk and Sam Altman revisiting that idea. But, the key difference is that Dr. King was championing UBI as a way to subsidize low wage jobs. The tech leaders of today are proposing it as a way to maintain a jobless society, as they continue to automate jobs with mediocre AI systems that are actually making life worse for a lot of people. Universal Basic Income, if not thought through carefully, can be another tool used by the ruling class to maintain dominance. UBI provided to a jobless population will be a program intended to dole out an allowance to citizens based on unknown metrics. This is a level of corporate control most of us have never experienced.

A more practical solution to all of this could be government willingness to actually care about its population. They must be willing to gather a true accounting of how much it costs to live in every city, state, county, province, etc., factoring in the cost of food, housing, health care, child care, education, elder care, rest, and any other necessities for life. They should factor in the amount of money subsidized through charities and other philanthropic entities. Then they can come to an accurate cost of living based on where people live. Large companies who want to do business in a specific area must pay their workers enough to live in that area, based on new minimum wage standards. Wage minimums must be based on living and not surviving.

Governments can then focus on small businesses who may not have the capacity to meet those wages. Subsidies can be offered to those smaller businesses. As they grow, they can slowly be weaned off of subsidies until their companies have the capacity to meet the wage standards of the geographical areas they do business.

There will absolutely be pushback from the rich and powerful because many of them are addicted to wealth. They will say that they do not have the money to accommodate these new standards. But, any corporate leader who can bankroll their own space program or buy world governments, can absolutely pay their workers enough to live a life worth living. Addiction to power and wealth is a real thing. As a society, we do not recognize greed as an addiction because it manifests in private jets and pretty girls. But, the broken homes, lost jobs, poverty, mental health emergencies, crime and death that come with other addictions to substances like heroin, or alcohol, are still present. They just fall on the shoulders of society at large instead of the addict and their families.

Luke Church - Hopelessness and AI

Editor's Introduction

Luke Church is a software developer and programming language researcher who is the co-founder of a venture capital-funded startup that develops AI-powered robots. His piece reflects on the hopelessness that technologists working in industry often feel, and shares his sense of personal failure at having been unable to engage with community-led alternatives.

Many of us got into the business of technology because we had an idea that the world could be in some way better and technology could help with making it so. This is often because of the lure of scale, that technology enables people to have effects that are super linear with respect to the time that is put in. Maybe for example we could build an app at say 1000 hours of labour that could save each of the people using it 10 hours. With only 100 users, we've broken even, and with a thousand hours we've made a contribution to peoples' lives that we couldn't have made one at a time. The normative aspiration is often more complex than "it should take less time to do exactly the same thing"; within this network it's often around expressions of control and ownership.

This idea that engagement in building technology is about more than profit, it's about the ability of people to make the world better to a degree they might not otherwise be able to is a core part of marketing recruitment in the tech industry. For example, Google's internships are about

“Do[ing] cool things that matter”, Palantir’s t-shirt advertises that “The world is breaking, come fix it”.

This is then a source of discontent within software engineering when it turns out that the normative aspirations of engineers are not in fact the primary current goal of an organisation, but a sales tactic; engineers feel as if they have been part of a bait-and-switch ploy. Successfully leveraging this discontentment may be one of the few levers that remain to influence big-tech to have some, any, normative position beyond extractive wealth accumulation.

To go with this opportunity is a problem - the DCI network’s considered, pluralistic perspective has taken multiple years to develop. During these multiple years, AI has taken several turns of an increasingly destructive nature. This slow, measured approach has a real cost and consequence in the presence of extremely well funded organizations that are clear, at least internally, about their agenda.

This is occurring at a time when the stakes of the conflict have become existential. The move to Generative AI allows the providers of AI systems to disassociate themselves from the material they have used to train models, and repackage it and serve it to users without having to distribute any of their users’ attention to the providers of the material. This maneuver gives them ultimately not only the ability to resell the world’s IP without even the marginal contribution to the cost of production, but also to resell reality itself.

Within this structure, the careful, considered, pluralist critical analysis may have been an argumentation structure for negotiation with technology in earlier times. Today we find ourselves confronted with presumptive statements about the inevitable outcome of technology, being used to determine the nature of reality, mis-sold to engineers to work on it and consumers to buy it. Within this logic, it’s not clear whether such considered arguments actually have a route to creating change, or just allow discourse to continue whilst the extractors continue to find ever more efficient ways to go about their work.

Antranig Basman - Community-Owned Software

Editor’s Introduction

Community ownership of data and technology, and the power to make substantive decisions about how and whether it is used, is essential to resisting the harms and exclusions that mainstream technologies create for members of grassroots and under-represented communities. In this article, Basman argues that community ownership requires technology that is built upon a

community's established processes and literacies. The SEWA Saamarth app presents an exemplar of this approach: it is built through a community-led process while relying on the use of low-cost "big tech" to support its implementation. This also highlights a necessary and obvious contradiction, one that allowed the creation of a product that the community could use within days, rather than years. There is hopefully a route whereby increasing development and design responsibility can be handed over to the membership, and AI has the potential to be a growing support in this process. While some of the questions around how the Saamarth app or any similar technology could effectively be owned by a community remain open, one thing is certain–ensuring that the design emerged from a community-led, grassroots process made it possible for the contradictions in its deployment to remain under the ownership of the members themselves, thereby allowing pre-existing community processes to determine the nature of the technology and the value it offers to the community as a whole.

The historical context of capitalism and extractive, colonial practices is longer and richer than is often acknowledged. The latest turn of the screw represented by the most recent developments in AI feels revolutionary, and in certain senses does indeed represent genuinely fresh classes and scope of extraction. However, AI at its latest huge scale relies on a bedrock of extractive practices that have been laid down for centuries, and occurs against a backdrop of struggles which have constantly sought to exploit contradictions in capitalist practices and establish islands of mutual interest amongst affected communities.

In various treatments, it's made clear that there is nothing inevitable or unique about the way we've come to think of the role of capital in our lives – it is the result of a thousand-year struggle that it's very important to understand is ongoing right now and that we can take a role in (Federici 2024, Graeber and Wengrow 2022). The struggle can be connected with Freire's notion of conscientisation, the process by which formerly scattered individuals can deepen their awareness of their shared interests and identity as a class, develop solidarity with one another and recognise their roles in ongoing historical struggles (Freire 2020).

Some models of these struggles seek routes to subjugate capital, but a better role could be to shine a light on what other kinds of choices or tradeoffs might be available within a capitalist system which can give more power to marginalised communities. Capitalism "as such" thrives on presenting itself as inevitable, as if there is no alternative to it, and showing its results as a done deal, rather than the results of a continuously ongoing struggle between central (colonial) power and the richer, more diverse periphery.

Questioning Big Tech

Every choice implies tradeoffs, and the key is to give communities a greater vision of the battlefield and the sense that more choices might be available than capitalism wants them to see. A key issue here for example is the notion of "big tech." Kumar et al advocate for a role of protecting communities from the incursions of big tech and highlights SEWA's village-level Mandli communities' relative lack of compute power, but this protection is impossible as a blanket mission (Kumar et al 2023). "Big tech" is not a unified, indistinguishable front, however much it might like to portray itself as one, and communities have to pick their battles.

A key technique of central capital/colonisers is to fragment the periphery by setting individual interests against each other—to find class or identity boundaries and drive a wedge into them by treating neighbouring communities differently. Once they are set at each other's throats and cease to see solidarity and common interests, capital can drive in and clean up. A version of this technique can be turned on its head by finding contradictions and tradeoffs within the structure of central power and exploiting them, rather than treating "big tech" as an undifferentiated mass.

For example I now see a distinction between "old big tech" – the giant capital and technological platforms of the 2000s and before, which were driven by cloud and software technologists producing actual products such as AWS and the Google Suite, and "new big tech" – AI and social media attention-perverting vehicles such as OpenAI, Tiktok and Meta. The former remain a central part of capitalism and are still highly profitable, but seem to represent a fundamentally different kind of contract with society in which the individual is still represented as some kind of autonomous creature capable of making self-informed, self-empowering economic choices, however unfairly biased.

A Negative Experience with Non-Profit Artificial Intelligence

My experience engaging with a non-profit organization who develops AI technologies for agriculture and our implementation of the SEWA Saamarth commerce platform has been interesting from this point of view. While this organization initially seemed like a good example of potentially positive AI impacts, at the end of the project they defaulted on their agreements, left SEWA and Gujarat as a whole and, and reneged on their original promise that "we will never use our customers' data to train our AI". This was an initiative under the standard NGO non-profit model – donor money was spent to bring technology to disempowered groups that their designers felt that they wanted and could scale. The resulting product could never be effectively used by the SEWA members since it was tailored to a different market and purpose, and the data was locked away behind a backend that, despite repeated promises, was never made accessible to the membership. Rather than helping them work with the data important to them, the app instead harvested data important to central power (location, bank details, Aadhar

number) and furthermore data that was promised would not be harvested and that the membership could opt out of (in practice they couldn't).

Their system was expensive and intricate and relied on the design and implementation resources of a distant, highly specialised team with unresponsive development cycles and a product roadmap that was never revealed to the membership. It was only sustainable as a result of the huge philanthropic investment in the non-profit and never offered a means where the direct community could take ownership of their technology and be responsible for its maintenance and meeting its costs.

Designing an Alternative: the SEWA Saamarth Commerce Platform

In contrast, the Saamarth commerce platform has been implemented as a grassroots-led initiative. One of the members brought to a Federation officer the notion that the community might benefit from an app, and an existing cultural process—the WhatsApp group where vegetable products are advertised and sold to the membership—was adopted as a precursor and peer system. Following the treatment of Design Justice (Costanza-Chock, 2008), this recognises that communities already have processes in place to meet their needs and that any technological intervention needs to adopt these as a starting point, and not negate or backtrack on them. The product specification was bootstrapped from screenshots of the WhatsApp group showing the community already in the process of meeting its needs. Here is a screenshot of the interface shown to the members, which is usable from their mobile devices:

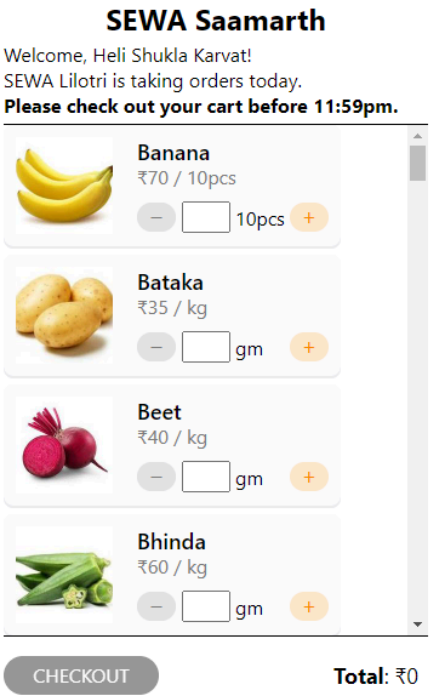
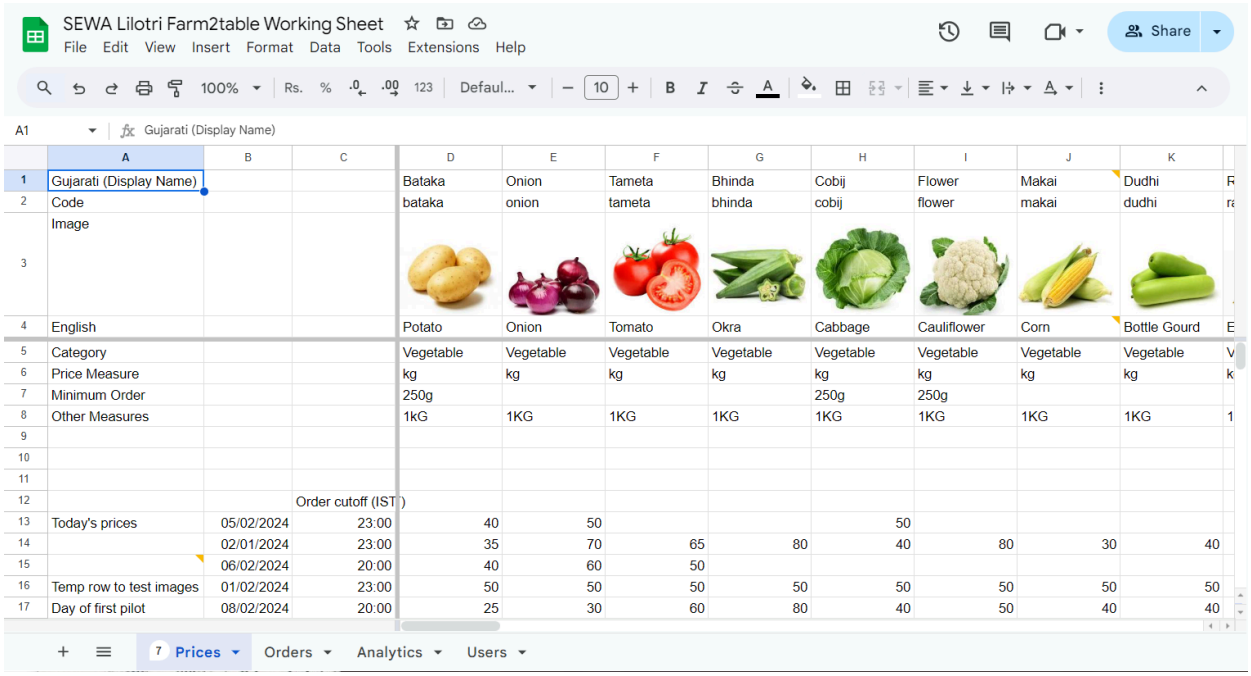


Figure 1: A screenshot of the SEWA Saamarth app on a mobile device.

This needs to fit into the existing sales workflow, where products are listed for sale the day before they are distributed, with a cutoff for accepting orders in the evening which is controllable by the seller.

The solution was designed around a literacy that the members already had: the ability to manage data held in Google Sheets. All of the app's functionality can be controlled from there, including what products to offer and when, and to what buyers, and the data held by the system is fully visible there and owned by the members at all times. In particular it is protected by Google Suite's access permissions and is only shared with communities that the members consent to. The list of these shared users of the data is visible to the membership. This rides on work done by Google to develop multi-access controls, permission systems, account and single sign-on integrations that would have been extremely complex and expensive to develop separately for Saamarth's context. The "working spreadsheet" which drives the app looks like this:



	A	B	C	D	E	F	G	H	I	J	K
1	Gujarati (Display Name)			Bataka	Onion	Tameta	Bhinda	Cobij	Flower	Makai	Dudhi
2	Code			bataka	onion	tameta	bhinda	cobij	flower	makai	dudhi
3	Image										
4	English			Potato	Onion	Tomato	Okra	Cabbage	Cauliflower	Corn	Bottle Gourd
5	Category			Vegetable	Vegetable	Vegetable	Vegetable	Vegetable	Vegetable	Vegetable	Vegetable
6	Price Measure			kg	kg	kg	kg	kg	kg	kg	kg
7	Minimum Order			250g				250g	250g		
8	Other Measures			1kG	1KG	1KG	1KG	1KG	1KG	1KG	1KG
9											
10											
11											
12			Order cutoff (IST)								
13	Today's prices	05/02/2024	23:00	40	50			50			
14		02/01/2024	23:00	35	70	65	80	40	80	30	40
15		06/02/2024	20:00	40	60	50					
16	Temp row to test images	01/02/2024	23:00	50	50	50	50	50	50	50	50
17	Day of first pilot	08/02/2024	20:00	25	30	60	80	40	50	40	40

Figure 2: A screenshot of the Google Sheets backend content management interface for the SEWA Saamarth application.

The list of products for sale can be updated directly by adding spreadsheet cells, users can be added and removed from the system by adding rows to another spreadsheet, and the resulting orders arrive as further spreadsheet rows. This means that it's straightforward for the membership to derive whatever analytics they need to see, for example what are the most

popular products, or most profitable markets, by adding spreadsheet formulas to that or another sheet. As well as building upon an existing literacy that some Federation members already have, this also drives adoption of this literacy amongst other members by making it attractive to learn how these tools and their formulas work.

Because of special characteristics of the market and community, this app could be implemented much more quickly and cheaply, without needing a login or authentication system. The application did not need to manage and clear payments for orders itself, since this can be farmed out to the mature Indian UPI payment system by linking out via a QR code. Because of the low compute requirements and adoption of a free service (Google Drive) as a backend, this can be hosted on the very smallest Amazon EC2 instance costing about $38/year, which is more than powerful enough to deal with the low traffic involved. Despite its low "vertical" scalability – the system couldn't deal with very many products, users, or orders in a single market), it has a huge "horizontal" scalability – new markets and communities can be added into the system by simply registering a new spreadsheet into it, with its own access controls etc. It respects the scaling and diversity requirements appropriate to SEWA's communities rather than the imperatives of corporations and large NGOs where vertical scaling is the only recognised value.

There's nothing inevitable about this technological choice. The server could well be hosted on actual infrastructure owned by SEWA at some date, but it would be extremely hard to compete with the economics and reliability of the most well-established cloud providers. The software has been implemented with as little dependence on Amazon's proprietary infrastructure as possible and could be easily moved if the economics and community arguments supported it.

Different Kinds of Ownership

So here there is a contradiction: how have we protected a community from the incursions of big tech by implementing a system hosted in the clouds of the highest-scale tech providers? This contradiction has exercised many in our wider network of experts, some considering in a straightforward way that technologies could only be effectively owned if the community can own the actual servers, software installations and protocols used for their data. This kind of thinking leads to products like Tim Berners-Lee's Solid Project, which aims to restore sovereignty to data users by establishing a "decentralised web" where the individual servers are under community control. Other similar decentralised systems were the subject of earlier experiments by Digital Green using the International Data Spaces peer to peer system, or by other partners in the form of blockchain technologies.

This kind of decentralised system may well be in our future, but in the interim, to produce products that our communities can use within days, rather than years, we need to pick our fights with capitalism carefully. This is crucial since only some form of actually usable product today can seed and drive the co-design process whereby the community owns its technology. The

products of the decentralised web are, at least currently, hard to use and administer, more expensive to deploy, and it is hard to explain the value proposition behind them to peripheral communities which have low familiarity with technology. The completely materialised data proposition of a spreadsheet whose cells are directly under their eyes and fingers, backed by the reliable hosting and effortless vertical scaling and data sharing protocols of "old big tech," is a highly attractive waystation on the road to full community ownership. We may end up resting at this waystation for many years.

There are other contradictions emerging. The platform as it stands may not unambiguously have promoted all interests fairly in the communities it has been deployed in. There is evidence that some members, both on the order placing, and product offering sides of the community, are concerned by the technology and that it may be contributing to reduced economic activity. After an initial flurry of orders on the first day, there seems to be a hard-core of only a couple of buyers who use it regularly, and there are several members who have only ever placed orders using the older, informal WhatsApp group message mode. On a day where the central member operating the spreadsheet was ill, another member who was less familiar and comfortable with the technology reverted to the older system of pasting a pricelist and special offer banner into the WhatsApp group, and this led to orders being placed by members who had not recently participated, as well as several new products being revealed that had not made it into the spreadsheet. Even the relatively low barrier offered by the spreadsheet entry system is producing sufficient friction to discourage some product listings.

The issues around how this or any similar technology could effectively be owned by a community remain open. It has been built using relatively mainstream web technologies and hosted in well-understood commodity cloud platforms, but the literacies necessary to develop and maintain the technology are currently well out of reach for communities such as SEWA's. Other projects have benefitted by stationing a data officer with SEWA for the duration of their collaboration. However, there is a risk that this person's skills are limited to basic data literacy and training for use of a particular app or technology, rather than providing more general technology capacity-building support. There is hopefully a route whereby, through mentorship and recruitment of suitable members of the coop, more and more development and design responsibility can be handed over to the membership. There's a potential for AI to be an increasingly strong help in this process, but AI-assisted code generation can only go so far in substituting for lack of relevant literacy and ability to articulate and understand the orchestration of development and deployment tools.

If the design had not emerged from a grass-roots led process, these contradictions would be devastating. They would be inevitably entangled with the values of a colonising process seeking to impose technology on the membership, where their engagement would be directly valorised by reductively quantified impact metrics. As a developer of the NGO-led artificial intelligence

technology said to me during our consultations, “we want to get our users addicted to our technology.” As it is, these contradictions in the deployment are under the ownership of the members themselves, and can be resolved by a community process determining what kind of technology they want to own or indeed whether any technology of this kind offers value to the community as a whole.

Colin Clark - From Inclusive Design to Disability-Owned Institutions

Editor’s Introduction

Colin Clark spent nearly 30 years contributing to the growth of inclusive design methods in Canada and internationally. He now designs and builds creative access technologies with Lichen Community Systems, a non-profit worker cooperative. This piece documents his reflections on the limits of the inclusive design model and calls for the creation of disability-led economies.

Disability and Technology

The history of the disability rights movement, and of the struggle for access, autonomy, and interdependent care, is deeply connected to technology. Assistive technologies have enabled disabled people to participate in a society that is built to exclude them. The disability community’s relationship to artificial intelligence, however, is a deeply ambivalent one. On one hand, the beneficial impacts of machine learning-based computer vision, speech recognition, and language processing technologies are most profoundly exemplified in new assistive technologies that can describe images, read labels, transcribe speech or put a voice to text, and interact with the physical world. Yet at the same time, these massive-scale statistical systems are predicated on a re-entrenchment of harmful social norms that are driven by all statistical model’s inherent bias towards averages. Under the regime of statistical norms and averages, disabled people will always be elided by algorithms as noise in datasets that power artificial intelligence. These algorithmic systems have direct, physical effects on people with disabilities, as well as cultural impacts on the perception of uniqueness and difference. Technology’s social empowerment of disabled people is thus also a doubling of normativity—where the use of assistive technologies or the dependence on mainstream technologies for access will “continue to reproduce the boundaries between abled and disabled, normal and deviant, which constitute [disability]... in the first place” (Moser 2006). In this sense, the very process of being included in ableist society via technology—as opposed to more significant structural socioeconomic change—reinforces disability as a deficit.

From Inclusion to Ownership

Over the last decade, inclusion has become the dominant structuring concept in the field of technology design. As proposed in academic design literature and subsequently adapted for industry use by Microsoft, inclusive design is open-ended and process-oriented in nature. Its proponents advocate for a largely unmeasurable practice oriented around "recognizing" difference, "realizing" complex systems, "learning from diversity," and "using inclusive processes" (Treviranus 2018, Microsoft 2016).

Under the mainstream model of inclusive design, the call for "nothing about us without us" by disabled activists who were demanding substantive participation in the decision-making processes that most impacted their lives became liberalized and unlatched from the politics of recognition so as to be made more friendly to capitalist reinterpretation as simply "good design practice" (Treviranus 2018). Tucker notes how technology companies "make use of disabled people for their own ends… as a test site for profitable innovation" (2017). And inclusive design is their favoured methodology for this agenda.

Inclusion always implies a dominant positionality and voice. It is the affluent, technologically proficient, expert designer who is the central protagonist in the inclusive design story, who must make the choice to share access and power with others. They are called to do so through ever-unfulfilled processes that avoid substantive confrontation with the systemic nature of ableism and its intersections with other forms of oppression. Inclusion, in this sense, is reformist in nature. It suggests that the systems and institutions that perpetuate exclusion of disabled people and other justice-seeking communities are still necessary and relevant, that their structural power need not be contested, and that they simply need to undergo a process of designed self-awareness in order to reform themselves—rather than to be dismantled to allow new, non-extractive and community-rooted economies to grow.

While inclusive design often speaks about the value *of* difference, it rarely grapples with access *to* value by those who are structurally excluded. Its focus on difference, then, risks overlooking the economic commonality among justice-seeking communities—specifically, poverty and lack of access to the tools of economic interdependence. A turn toward the economic dimensions of access, which recognizes the potential for connection across communities, requires an acknowledgement of a long tradition of intersectional solidarity, and a commitment to working with social structures that express this economic solidarity materially—such as worker-owned cooperatives, community finance associations, and grassroots labour organizations.

Community, here, is understood as being productively connected with the senses of belonging that are expressed through identity, recognizing that structural exclusion is simultaneously experienced in fundamentally different ways and in ways that are in common. The central concern of the Data Communities for Inclusion project is to explore and advocate for the

material and economic dimensions of inclusion—that is, inclusion in the form of direct decision-making power in and ownership of socio-technical systems by those who are most impacted by them. This involves a shift from conceptualizing inclusion as a process or mindset for designers, to understanding it as structural in nature, centring design by communities and resulting in direct access to the decision-making structures and value produced by the technologies that impact them.

Institutions of Our Own

It is profoundly difficult for affluent, non-disabled designers of artificial intelligence technology to deeply understand the ways that their designs harm others, or to imagine how they might reconcile and prevent these harms. Even if they could, these designers are unable to substantively change the nature of their technologies without also changing the economic conditions under which they are produced. Simply including people with lived experience in the design of these systems will continue to reinforce, and even amplify, the underlying systemic exclusions. Today's artificial intelligence technologies are fundamentally rooted in, and only possible as a result of, structural economic inequalities that perpetuate oppression against disabled people and other equity-denied groups.

To reimagine and to sustainably design non-extractive, non-ableist technologies, we need to start by building economic structures of our own, grown in solidarity with others who are both like and unlike us. Collective financial empowerment strategies, such as the use of informal Rotating Savings and Credit Associations (ROSCAs) and worker-owned, democratically governed cooperatives, will serve as the structural groundwork for building alternatives to extractive technocapitalism. Designing equitable technologies must be done alongside the work of reimagining the nature of labour participation, the norms of "professionalism," the responsibilities of employers to their workers, and full access by workers on the margins to the value produced by their labour.

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