

Justice-oriented ecologies:

A framework for designing technologies with sex work support services

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Introduction

A decade of austerity in the UK has seen a reduction of funding in the charity sector, referred to in the UK as “the third sector.” These funding cuts, alongside the neo-liberal policies of successive governments, have moved forward the ways in which digital technologies are discussed in relation to supporting and improving existing infrastructures and ways of working in the third sector. There has been a push towards digitalization, with funding available to develop technologies, and a growing space in the tech world for those who want to design with and for the third sector, matched with a lack in funding in the charity sector for sustaining existing technologies, up-skilling charity staff, or the purchase of smartphones, computers, software or other technologies. This has resulted in significant gaps between the promise of digital technology and meeting the needs of charity organisations.

One specific challenge involves a lack of mutual understanding regarding what this kind of technology design and development work can look like, what it means, and how it can be done. This comes from both sides: charity staff may lack detailed understanding of the ways in which digital technologies are designed and developed, and technologists may lack an understanding of the complexity of the space they are aiming to innovate within. This mismatch in knowledge and understanding can lead to ‘technological solutionism’ where technologies are seen as the simple solution to solving complex socio-technical or socio-cultural developments or

as the ‘easy’ replacement of (often vital) human interactions. This is problematic as it oversimplifies *wicked problems* (Zimmerman, Forlizzi, and Evenson 2007; Buchanan 1992; Rittel and Webber 1973) or problems that are (nearly) impossible to solve due to difficulties in recognizing incomplete, constantly changing, or contradictory requirements, but also because it often assumes all beneficiaries have technology skills and digital literacy, as well as access to technologies such as smart phones.

Rather than attempting to design simple solutions to complex concerns, we look beyond this simplistic model of technology design with and for charities in this chapter. Instead, we explore the complexity of sex work support services and the opportunities that arise through this to develop ways in which digital technologies can be designed *not to replace services, but rather to support* existing infrastructures for harm reduction. In doing this, we look beyond direct service delivery and explore the ways in which digital technologies are already being used in charities to better understand how new interventions can fit into existing ecologies. This provides us with windows of opportunity for innovative uses of digital technologies as well as their sustainable implementation. We have written elsewhere about how the use of digital technologies can support and facilitate social justice outcomes in these charities, urging researchers and designers working in this space to design not only for direct service delivery, but for multidimensional uses of harm reduction, sustainability, and wider advocacy implications in relation to for example, stigma (Strohmayer, Laing, and Comber 2017).

In this chapter, we explore these considerations by discussing justice-oriented ecologies; where we see the spaces in which design work is carried out — in this case charities — as complex and evolving agents of justice. Based on this, we strive to work towards more nuanced discourse of designing and developing digital technologies with and for charities for their service

delivery and advocacy work. We do this by presenting and reflecting on two recent projects. By providing examples of justice-oriented ecologies that we have worked within and reflected on, we are then able to ask open and provocative questions surrounding the ethics, methodologies, and pragmatics of research, design, and development to reflect on these ecologies. We want to encourage others researching, designing, and working in these spaces to ask themselves these (and similar) questions when working with sex work support services and in cognate third sector spaces.

Technologies and sex work support services

Technologies and digital infrastructures can provide new opportunities for charities to rethink organizational control (Tilson et al. 2010) or potentials for justice (Strohmayer, Laing, and Comber 2017). Furthermore, technologies can themselves generate new infrastructure to challenge existing structures (Tilson, Lyytinen, and Sørensen 2010). They are also scalable, and possess upward flexibility; meaning that with digital technologies we can imagine the creation of almost any application or service (ibid.).

There has been a growing body of literature in disciplines such as Human Computer Interaction (HCI) and social work, which addresses particular elements of digital infrastructures in charities which are explored below. These projects have often focused on designing to support the delivery of a particular task within charities. For example, there has been some work carried out on digital feedback systems (Dow et al. 2016; Dow et al. 2017), improving infrastructures for communication between staff and service users of a shelter for homeless women (Le Dantec and Fox 2015), or the use of digital technologies as elements of service delivery in *Hollaback!*, a

charity fighting street harassment (Dimond et al. 2013). Others have looked at supporting the operational work of the third sector, for example, designing digital technologies for accounting and transparency with charities (Marshall, Kirk, and Vines 2016).

There is also a growing body of work exploring the ways in which sex workers themselves use digital technologies, with much of the recent literature focusing on sex workers who work online. This can include research exploring working conditions (Sanders, Connelly, and King 2016), but can also include work looking more broadly at the ways in which digital technologies have been incorporated by sex workers into their working lives (Jones 2015; Sanders et al. 2018). Others have explored the ways in which the use of digital technologies could affect policy or law (Ashford 2009; Cunningham and Kendall 2011). However, these literatures focus on the ways in which sex workers use technologies, rather than the design processes of these.

Work with sex work support services proves less diverse. Research has been carried out in India to design a phone broadcasting system for urban sex workers in Bangalore to improve an NGO's outreach work (Sambasivan, Weber, and Cutrell 2011), and another piece of work has been carried out in Zambia to collect the fingerprints of sex workers to make accessing personal health records simpler (Wall et al. 2015). This shows, that in instances when considering technology design and use in support services, these technologies can be seen as tools of informing sex workers about health concerns or even tracking them for personal health-related reasons. We argue that this is not enough: digital technologies that are designed with sex work support services should strive to support sex workers in more diverse ways where various levels of justice and harm reduction intersect and produce fertile grounds for innovation.

When reviewing the literatures surrounding the technology use of sex work support services and the literatures surrounding the evaluation and design of digital technologies for service delivery in charities more broadly, we learn that few examine charities as holistic entities or agents for justice. Too often the evaluation of existing, or design of novel, interventions and digital artefacts of service delivery is the focus of these projects leaving the wider roles technologies can play unexplored. Looking at charities as ecologies and exploring the social interactions and wider implications of technologies within these contexts however, allows us to build more nuanced understandings of the charities, their service delivery, and ultimately the digital interventions that are developed with and within them.

Justice-oriented ecologies

In order for newly adopted technologies to be useful for service delivery and not to simply reinforce existing power imbalances to amplify exclusion (Toyama 2011), they need to be embedded in the service, to follow 'just sustainabilities' (Dombrowski, Harmon, and Fox 2016) where attention is drawn to systemic rather than individual concerns, and be accessible for all (i.e. not furthering the digital divide). A shift towards the exploration of charities as ecologies that do not only provide (digital) services, but that are also agents of social and criminal justice (Strohmayr, Laing, and Comber 2017; Kam 2014; Bryce et al. 2015), would allow researchers to not only evaluate, but also design technologies and interventions that look beyond direct impacts such as, for example, cost-savings in service delivery and towards wider justice implications of the digitally supported work charities carry out (Strohmayr, Laing, and Comber 2017). With this we mean, that when we look beyond the most obvious places where technologies can be implemented, we begin to look for places where the implementation of these

technologies become useful and meaningful for the sex work support service and their organisational (infra)structures. In turn, this means we begin to work with existing expertise, assets, and resources, which should then result in improvements for sex workers who are supported by these organisations.

To enable this kind of work, we use the framework of Information Ecologies (IEs) (Nardi and O'Day 1999). This framework was developed in HCI and describes a localized system of actors, values, technologies, and practices that help us better understand human activities alongside technologies within these localized systems. This means that instead of looking only at technologies, we explore the actions that occur in relation to these technologies within the complex ecology of relationships, actors, practices, and values. To be able to design technologies within these complex and interconnected ecologies requires immersion within the particular IE to provide “a local habitation” (Nardi & O'Day 1999, pg.55).

Adding to this framework the aforementioned view of seeing charities as agents of justice (Kam 2014; Feis-Bryce 2015) allows us to see charities that develop the use of digital technologies to facilitate a holistic change in their services. In such a justice-oriented ecology individuals, policies, and technologies work together to establish ecologies of service delivery, advocacy, and critiques of existing structures. Through this framework, we look at sex work support services as holistic ecologies providing pathways towards justice for sex workers. The work is underlined by a strong belief in social justice, an attempt to engage in projects that reframe ‘technologies in charities’ into justice-oriented ecologies that aim to facilitate movements towards more socially just research spaces and worlds (Strohmayer, Laing, and Comber 2017; Dombrowski, Harmon, and Fox 2016; Fraser 2007).

Furthermore, research that is conducted in this way should not only result in novel interactions with technologies that are meaningful to those involved in the process, but also that these interactions demand “new ways of accounting for difference in inequity at the societal scale” (Dombrowski, Harmon, and Fox 2016) – that the technologies become *just*, or truly, sustainable designs. We see potential for (co-)designing innovative ways in which digital technologies could support existing service delivery and organisational practices, for *useful* designs. Here we see *useful* as something that promotes and supports the sex work support service provider in their service delivery and sex worker rights advocacy. Below, we use this framework of justice-oriented ecologies and describe the ways in which we developed and deployed digital technologies with two charities in the UK.

Understanding the ecology

Throughout the rest of this chapter, we provide two examples of projects that use the framework of justice oriented-ecologies to design and deploy digital technologies with sex work support services. Both of these are examples of work that is taking place in ongoing collaborations between the sex work support services and us as researchers. We explore the ecologies within a national charity in the UK called National Ugly Mugs, as well as one of their members, a local project called Girls are Proud and Male Action Project (GAP/MAP) that works within a national charity called Changing Lives. Through the exploration of their ecologies we reflect on the ways in which they engage with digital technologies through their service delivery, dissemination of work, and in research collaborations with us as HCI researchers and designers.

When we started working with both of these charities, they were very open with us in discussing their expertise in service delivery as well as their lack of expert knowledge regarding certain digital technologies. In these discussions however, they often were explicit in their curiosity and willingness to learn about technologies, and in some cases had told us how they had already started to do this. Both were curious and excited about the prospects of using digital technologies in more innovative ways and have started researching and using digital technologies beyond our collaborative projects with them.

As part of the research process, we wanted to not only provide the charities with technologies that they would be able to continue to use after we had finished the project, but we also wanted to ensure that charity staff had the skills and confidence to work with these (and other) technologies once we had left the field. As such, throughout the project, staff often asked us to help them with their use of these and other technologies — for example by helping them with website analytics, or answering questions they had about other types of technologies they had read or heard about — and we often asked them questions about the work they do and attended training they offered where this was available. Through this exchange of expertise, in which we shared our knowledge of digital technologies with them, and they shared their expertise in service delivery with us, we were able to build up mutual confidence in relation to technologies, service delivery, and the ways in which these two spaces can interact. Below, we provide an overview of these projects to first build an understanding of the research space to co-design technologies to fit within and support the existing justice-oriented ecologies.

National Ugly Mugs

National Ugly Mugs (NUM) is a charity whose aim is to end violence against sex workers. They do this by providing access to justice and protection for sex workers in the UK through a digitally facilitated peer-alerting system, training police and other service providers, and through consensual sharing of intelligence with police forces. We have been working with NUM since December 2015 to explore the ways in which they utilize digital technologies to facilitate their service delivery and advocacy work. We have done this through a comprehensive evaluation of their existing services (Strohmayer, Laing, and Comber 2017) where we carried out ethnographic field work in the NUM office, formal interviews, and countless informal chats with each member of staff. We also exchanged phone calls, e-mails, text messages, direct messages on Twitter, and public tweets to discuss different elements of their service delivery and the process to redesign their website and digital systems. We also carried out work with some of their members, as well as sex workers who are not members but benefit from their services, such as by receiving NUM alerts through a charity which is a member of NUM. We carried out all of this work to better understand the charity and the role technology plays as part of their everyday interactions with members, police, funders, policy makers, academics, and others. This evaluation also enabled us to develop implications for design for the development of digital technologies with sex work support services (Strohmayer, Laing, and Comber 2017).

As part of this work, we designed a new digital system with NUM that incorporates disparate technologies and digital services they used – turning their initially fragmented software usage into a centralised system. This allowed us to support the existing ecology in a meaningful way, to support the work they are doing through judicious changes to their existing use of technology while simultaneously supporting existing structures, organisational policies, and ways of working. Here we want to focus on two ways in which the new digital infrastructure is

able to support the existing ecology: efficiency and identity. With the changes we are implementing in the system, we support staff in being able to do their job more easily and without having to switch between many different digital services. With this, we hope to improve the digital technologies staff are using; making administrative tasks — such as the approval of new members — faster and easier to complete, which ultimately allows staff to have more time to work on service delivery, such as the following up on reports and the creation of alerts.

<Figure-1 here>

Figure 1: Examples of illustrations made for National Ugly Mugs

We help to provide a more holistic organizational identity via design work involved in the redevelopment of their online identity, including the use of colour, symbols, and other illustrations that are used in the new system. This work brings together the advocacy and service delivery they perform, making clearer their role as an organization: one that aims to end violence against sex workers through harm reduction service delivery and advocacy. For example, in [Figure 1](#), we provide three examples of the types of artwork we produced for the website: these include symbols of the sex worker rights movement and incorporate elements of care, solidarity, and service delivery, as well as activism, advocacy, and support.

Girls are Proud / Male Action Project

One of the organisational members of NUM is Changing Lives, which administers two projects called Girls are Proud, and Male Action Project (GAP/MAP). They provide services to support people engaged in sex work, survival sex, or experiencing sexual exploitation and work across a

large conurbation in the North East of England. They use a people-focused approach to support men and women involved in sex work, and those exposed to survival sex and/or sexual exploitation. They do outreach and drop-in work, but also provide more structured support for individuals and groups.

We have been working with Changing Lives since the summer of 2016 to design a digital toolkit for emotional wellbeing with staff, volunteers, and their service users. Through meetings and discussions with staff, creative workshops with service users, and participation in parts of their service delivery we continue to build a nuanced understanding of the organisation and their complexities of praxis and politics. Here we want to focus on one particular use of digital technology within this toolkit. GAP/MAP service users, staff, and other supporters organised the first Red Umbrella March to honour International Day to End Violence Against Sex Workers in the city. We wanted to support this action and through conversations with staff decided to facilitate the collection of localised experiences and voices of those who took part in the march. The first author, and another researcher from Open Lab, took part in the march and, afterwards, also took part in the service that was organised by GAP/MAP and their service users. It was here that we provided a reflexive activity for those who participated in the march. This activity was repeated in 2017 when the first author of this chapter attended both the march and commemorative service again, continuing to work on the archive.

We asked participants to decorate wooden umbrellas, place these on a plastic box, press a button, and then record their audio-message to the umbrella. With the help of Radio-frequency Identification (RFID) tags and a bespoke open-source audio-recording tool called JigsAudio (see <http://jigsaudio.com/> for more information) we were able to map audio recordings to umbrellas (see Figure 2 for pictures of this process). This allows us to create a multimedia installation that

brings together craft, technologies, and voices of those who identify either as sex workers, as engaged in survival sex, or having been sexually exploited. This creates a hybrid space where the physical and digital become one and interact with one another. The umbrellas and messages can be displayed in physical and digital ways: a screen can present the webpage that was developed to link the umbrellas, and stories can be exhibited next to the tangible artefacts created by our participants.

<Figure-2 here>

Figure 2: Pictures taken at the production of The Red Umbrella Archive (a) the creation of umbrellas, (b) using JigsAudio, and (c) a picture of the website ready to use

This reflexive activity started a process of creating a living activist archive (Ferris and Allard 2016). Describing this as a living activist archive, we use the term *living* to make clear that this is an activity that took place in December 2016 and 2017, but that will also hopefully continue to *live on* beyond then. To define the term *activist archive* we make use of two particular pieces of work: Ferris and Allard's sex work database (Ferris and Allard 2016) and Harris' account of archives and archivists in the context of South Africa's transition from apartheid to democracy (Harris 2002). Activist archives embrace and emphasize that archives are socially constructed spaces of struggle over meaning-making (Ferris and Allard 2016) and a "crucible of human experience, a battleground for meaning and significance, a babel of stories, a place and a space of complex and ever-shifting power-plays" (Harris 2002, pg. 85).

Particularly when placing an archive in a justice-oriented ecology, such archives can be a tool to operationalize "particular social justice objectives" (Ferris & Allard 2016, pg.192). With this we mean that we hope to use the artefacts and collection of stories as a tool for advocacy, for

power-shifts in expression of thought. Since this activity was placed in a context of service delivery of the charity, we forefront the voices of sex workers and other GAP/MAP service users. Similar to Ferris and Allard's sex work database, we see the umbrellas, recordings, and the website that was subsequently created as a translation of our activist intentions into tangible manifestations that are useful for service delivery (the production of these artefacts, and the potential use of these artefacts), but that can simultaneously be used as tools for advocacy through, for example, an exhibition or sharing elements on social media.

Working towards justice-oriented ecologies

Both of these charities, like many others, use mundane technologies (such as e-mail, SMS and other messaging applications, and telephone services) to communicate with beneficiaries, other staff, or research collaborators. Yet they also engage in the use and development of novel technologies. As outlined above, they have taken part in projects that bring about changes in potential futures with digital technologies in their organisational contexts (Tilson, Lyytinen, and Sørensen 2010) in service delivery, advocacy work, and ultimately justice-oriented ecologies. Here we want to take a brief sidestep to make clear we do not claim that it is or was only our work that 'established' these justice-oriented ecologies the charities work within. We see our role here as supporters of these existing ecologies and hope to facilitate reflection to support movements towards improved praxis, reflection, technologies, and ultimately a more socially just world.

By working collaboratively with the charities, we strove to understand the ecology we were working in, reflect on this, and then introduce digital interventions that play a role in the

charity beyond their immediate use. With this we mean that while the technologies are useful for the purpose they were designed for (either to streamline existing processes, or to develop a living activist archive), they can also be useful within the justice-oriented ecology in other ways. For example, with the redevelopment of the NUM website we emphasize the connection between their service delivery and advocacy work through the visual design work. In our project with GAP/MAP, producing umbrellas facilitates a novel way of collecting hyper-localised client voices and disseminating these in diverse spaces through the interactivity of the hybrid space that is created by the tangible artefacts (the umbrellas) and digital infrastructure (the website).

These wider uses of the technologies become particularly meaningful when looking more closely at the importance of just sustainabilities (Dombrowski, Harmon, and Fox 2016). Both of the projects were developed in collaboration with the charities; the project choice, research methods, and use of digital technologies were developed in collaboration with staff and service users. This collaborative process allows us to reflect on the sustainability of these projects, and we were able to support the charities on their journeys to becoming more digitally aware and confident. This became particularly clear in our interactions with staff from GAP/MAP. When we first showed them JigsAudio they liked the idea but asked us to take charge of the activity; but after the event took place and many who took part in the march sat and ate together, one of the members of staff asked us whether we could give her some extra umbrellas and a spare JigsAudio so she could repeat the same activity the following year; in 2017, we carried out the activity again together. While our provision of materials can encourage the continuation of the building of this technology, we cannot provide materials for GAP/MAP to continue the activity indefinitely. Having said that, the project has turned into the development of a research relationship between Open Lab and GAP/MAP that continues in the shape of different types of

projects as well as a more nuanced and creative understanding of digital technologies focusing on the ways in which they could be used in service delivery and as a tool to bridge this with advocacy work.

With this example, we mean to show that when engaging with charities as justice-oriented ecologies where the *interactions* surrounding technologies (rather than the technologies themselves) are the focus of the projects, we can achieve an integration of digital technologies in socio-technically complex spaces that allow for meaningful interactions, rather than technological solutionism. How this manifests in these two projects is yet to be seen, but by ensuring that the technologies are situated within and can be sustainably incorporated into the existing digital ecologies, we believe we have laid some of the groundwork for these just sustainabilities.

Reflecting on justice-oriented ecologies

Technologies in charities do not work independently of service delivery, but rather are part of an emerging justice-oriented ecology: technologies are introduced, adapted into, and developed within, the practices of the charities. Taking the justice-oriented ecologies and the importance of just sustainabilities (Dombrowski, Harmon, and Fox 2016) within this into account allows us to ask questions not only about the ways in which charities themselves work within this framework, but also to change the ways in which we look at digital service delivery. Below we provide some questions that accompany us on our ongoing journey to developing new meanings of technologies in service delivery. We continue to rely on these in our continued work with NUM, GAP/MAP, and other sex work support services and hope they are valuable for others designing,

researching, or working to design and deploy digital technologies with sex work support services, and charities more broadly as well. These questions are framed as open and provocative ethical, methodological, and pragmatic questions that we do not claim to have definitive answers to; we do however provide a brief discussion of the questions outlining the ways in which we dealt with them in the two examples outlined above.

- How genuinely meaningful and useful is the digital intervention for the service provider and their beneficiaries?
- How do we ensure sustainability of the project we are working on with charities; and how can they continue to be useful to the charities once we as researchers and designers have left the field?
- What role do we as researchers and designers play in facilitating digital skills development for charity staff and volunteers?

We worked very closely with the charities while developing the projects outlined above. In this way, we were able to embed ourselves (to different degrees and in different ways) and become more contextually aware of the charity, their existing practices and interests, as well as their availability of resources. Throughout this process the first author in particular functioned as a ‘critical friend’ who was able to support the charity but simultaneously question (and sometimes critique) current practices to better understand the ways in which technologies could be useful. In this way, we were also able to design digital technologies that would be useful to the charity after we had left the field.

When taking into consideration the *use* of the technologies that we design and deploy with charities, we also need to consider what skills members of staff, volunteers, and beneficiaries already have. Coming back to the argument of the ‘critical friend’ we ask what the role of the researcher is in relation to up-skilling participants in the use of technology. At the same time, we also question whether it is actually our role as researchers to help develop existing skills or to point out that, for example, using social media to facilitate discussions online is a digital skill that the organisations may already utilise.

We ensured that, as part of both of the projects, staff, volunteers, and members/service users of the charities had not used the technologies we decided to work with in our projects. Also, in both cases, the levels of detail needed to be able to efficiently use the technologies differed greatly. In relation to the NUM project, we need to ensure that we provide sufficient training (both in in-person and in written formats) for them to be able to use the technologies relatively quickly. Their new digital system for service delivery depends on our technologies, so we need to make sure we provide sufficient (and to a certain degree continued) support for them. The GAP/MAP project is slightly different, as JigsAudio is very easy and straightforward to use. Going through the process of recording an audio message to an umbrella once is probably enough to understand the way the technology works. Where a training element becomes important however is in the move from the tangible artefacts to the digital archiving through the website. It is here that we again need to ensure that we provide sufficient written and verbal training to ensure they are confident enough to carry out this activity without our support.

Conclusions

In this chapter we aimed to look beyond digital technologies that are employed in sex work support services (or charities more broadly) as ‘silver bullets’ to solving complex socio-cultural, socio-ethical, and socio-technical problems. Instead we draw on literatures from various disciplines to provide a novel way of exploring the potential uses of technologies in these spaces as justice-oriented ecologies. In this way we strive to work toward exploring the complexities of sex work support services to develop ways in which interactions with digital technologies can support existing infrastructures or modes of service delivery. In turn, this will benefit sex workers who are members or service users of these organisations in more nuanced and complex ways. We provide two examples of projects we are involved in that work in this way and include a brief discussion of reflexive questions. We ask these of ourselves, and want to encourage researchers, designers, and others working in this space to also ask themselves these (and other similar) questions.

We are very aware that digital infrastructures for different charities or support services vary greatly. Through our personal and academic experiences, we have heard of underfunding of digital technologies, and the lack of access and skills associated with novel devices, software, or interventions. It is exactly for this reason that we frame our work in the way we do. We hope that other technologists, charity staff, and researchers working in this space take into consideration the design of digital technologies in charities as a holistic process rather than parachuting in and out of the charities to deploy ‘shiny’ technologies that do not integrate with existing practices. We would like to encourage researchers working with sex work support services to take into consideration the role their research can play when working with these charities, particularly in relation to supporting service delivery and advocacy work to ultimately support sex workers.

We do not claim to have developed a taxonomy of the types of technologies that should or should not be designed with sex work support services, rather we provide a framework that has been useful for us in working in this space. This framework allowed us to avoid building technologies that fall into the trap of technological solutionism, and rather facilitate holistic learning around potentials for digital interventions in charities that function as justice-oriented ecologies. We continue to work on these kinds of projects and through this also continue to develop our understanding of service delivery, advocacy, and digital technologies. We continue to learn of new ways in which these seemingly disparate spaces can intersect to create a more inclusive and holistic picture of ‘service delivery’ with and for sex workers.

Finally, we want to take a step back from our discussions of technologies in sex work support services. The idea of justice-oriented ecologies we have discussed above stems from justice-oriented interaction design and HCI’s information ecologies, and as such is focused on the interaction around technologies. At the same time however, it is also aimed at those working on interventions in sex work support services of any kind, not just digital ones. We believe that any intervention aimed at supporting sex workers can make use of exploring the research and design space (ie the charity or its service provision) as a justice-oriented ecology and the questions we provide in this chapter. As such, this chapter not only contributes to HCI literatures, but also to wider research surrounding the development of sex work support services.

We argue that future research and engagements that explore (digital) interventions in sex work support services should regard charities as justice-oriented ecologies that provide harm reduction services for sex workers. Furthermore, the collaborations that are built could be constructed as “effective alliances” (Ferris & Allard 2016, pg.192) between academia, charities, their service users, and other allies to continue to support and contribute to efforts of sex worker

rights advocates to eliminate whore stigma, violence against, and the underlying marginalization of sex workers. In sum, anything placed in these justice-oriented ecologies should strive to work alongside charity staff, volunteers, beneficiaries, and supporters to make meaningful and useful contributions to stakeholders involved in the projects.

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