Digital Meaning: Exploring and Understanding the Motivations and Experiences of Virtual Volunteers

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ABSTRACT

Virtual volunteering is a convenient and powerful way for Volunteer-Involving Organisations to leverage skilled volunteers with Internet access to help build organisational capacity and access specialised skills. This paper identified a gap in the HCI literature in relation to formal, organisation-led virtual volunteering and discusses findings from a recent study detailing the main motivations of virtual volunteers and how ICTs influenced their volunteering experience. Example design considerations and future research opportunities are provided.

CCS CONCEPTS

• **Human-centered computing~Empirical studies in HCI**
• **Human-centered computing~Computer supported cooperative work**

KEYWORDS

Virtual volunteering, skill-based, civil society, volunteer involving organisations, HCI

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1 INTRODUCTION

Volunteering is an important and mutually beneficial form of civic participation. Volunteers benefit from social connections, meaningful work and improved health while the community benefits from the positive impact due to the volunteers' contributions of time, effort and expertise [2, 8, 14, 18]. Virtual volunteering is a recent volunteering practice that allows volunteers to work with Volunteer Involving Organisations (VIOs) through the Internet using Internet-connected devices [6].

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This can help VIOs increase their resourcing of and access to specialist skills and expertise [6] which helps them continue their operations. This paper aims to better understand the experiences of virtual volunteers and factors that affect their experiences including ICT usage. This paper also offers preliminary considerations for ICT design that could point to future research opportunities for HCI researchers, as well as ways to better support virtual volunteering for both VIOs and volunteers using ICTs.

2 LITERATURE REVIEW

Cravens [4], [5] defines virtual volunteering as a way to provide "volunteer service via the Internet and their home or work computers, and agencies using the Internet to involve volunteers." Virtual volunteering can also be a part of a larger volunteer experience, for example:

1. Conducting research at home (virtual), and then presenting the findings at the VIO office (offline);
2. Coordinating with other volunteers and VIO staff via email or other ICTs (virtual) to meet in person;
3. Completing a report with copywriting and graphic design skills (virtual), for a presentation (offline);

Volunteering work, such as that shown above, can be very similar to paid work in terms of skills and effort used. Since ICT usage is so prevalent in the private sector, it makes sense that volunteers can also use their ICT-supported skills to volunteer. Amichai-Hamburger [1] further showed the potential benefits of online volunteering, focusing only on completely online projects (no offline activities), such as the ease of access and exchange of information, finding similar interest groups and reducing the usage of harmful stereotypes due to a lack of personal information that is communicated online which may contribute to people's in-built biases. However, Dhebar and Stokes [7] warned of the additional resources required to successfully plan and manage virtual volunteering projects, specifically where volunteers are working individually and communicating mostly with the volunteer managers. More recently, Mukherjee [11] explored the benefits of virtual volunteering for older adults, such as more social connection and reduced age-based prejudice, including the perception that older adult are less capable in using ICTs. Virtual volunteering has also been offered as a way to support disaster and crisis responses by those who are geographically dispersed [3, 15]. Volunteer online communities such as Wikipedia [9, 12, 17] and open-source software projects [13, 16, 19, 20] have also been examined, although it's important to note that this type of virtual volunteering is informal, meaning unstructured and not organisation-led in nature, and therefore will not be examined in detail in this paper. The existing literature so far hasn't explored, in detail, the impact of

ICT usage on the experiences and motivations of virtual volunteers, despite the crucial role ICTs play in virtual volunteering. Thus, this paper aims to explore this area to help HCI researchers design ICTs that better support or enhance the virtual volunteering experience.

3 FIELDWORK

We conducted fieldwork with 10 participants using ICTs to volunteer with VIOs, capturing their motivations, efforts during the fieldwork, reflections on their experiences and the influence of their ICT usage. All participants recruited were able to access the Internet daily, volunteer virtually during the fieldwork, and were vetted by the VIO's. Most were in Australia, P7 was in Fiji and P8 was in Canada. Participants ranged in age between 24 and 56 and were a mix of full-time employees and jobseekers, full details are shown in Table 1. This variety of work situations raised a diverse set of needs and motivations that will be explored in the findings section. The channels used for recruitment include a UX design-related event, personal contacts and ads on social media.

3.1 Methods - Capturing participants' experiences

The fieldwork spanned three months from recruitment to post-study interviews. An initial semi-structured interview was conducted with each of the 10 participants to understand their volunteer history, related ICT usage and attitudes towards volunteering. Then each participated in a 28-day digital diary study to record their reflections on any volunteering they performed on a daily basis, how they felt about it, what ICTs they used to support their activities, their feelings towards those ICTs, and reasons for not volunteering (if any). At the end of the diary study, the researchers conducted another semi-structured interview to explore and clarify each participants' diary data. In total the researchers captured 20 interview audio recordings and 186 text-based diary entries. The data was transcribed and analysed thematically [10].

Table 1: Participants' volunteering during fieldwork

ID	Age	Sex	Vocation	Volunteer skills	VIO cause(s)
P1	28	F	Full-time	Business advice	Refugee start-ups
P2	39	F	Jobseeker	UX design	Cancer Support
P3	24	F	Full-time	Logo design	Cancer Support
P4	56	F	Full-time	Software research	Human Rights
P5	36	M	Full-time	Software research	Human Rights
P6	25	M	Jobseeker	SEO guidelines, programming	Children in Poverty
P7	30	F	Jobseeker	Research and content production	Refugee Advocacy, Conservation
P8	30	F	Full-time	Social media audit	Children in Poverty
P9	38	M	Full-time	Visual design	Cancer Support
P10	24	F	Jobseeker	Social media marketing	Human Rights

4 FINDINGS

Data analysis found four themes influencing the virtual volunteering experience: *Meaningfulness of work, Social connectedness, Self-improvement,* and *Availability.*

4.1 Influence 1: Meaningfulness of work

All participants felt good about their volunteering when they thought it made a meaningfully positive impact on society, even when the scale of that impact varied greatly. For P1, who helped three refugees start their own businesses, the meaningfulness of her work was derived from the face-to-face contact. For P4, however, meaningful work was more based on the worthiness of her goal, stating that her work was "*…more a necessity. If the world was perfect we would not have to [volunteer], would we? So, I see it as something that has to be done…*". Also, playing a part of a broader mission was meaningful for P7 and P10, who both worked towards human rights and social justice.

The ICTs' efficiency and responsiveness, especially for communication tasks via email or instant messages, noticeably influenced the experience of the volunteers. For example, P1 and P10 found the coordination involved very straightforward which helped them focus on the complex and meaningful work, but P2, P3, P5 and P8 had difficulties coordinating with the VIOs they worked with because the ICTs they used (email and Slack) didn't help them understand the complexity of their work. They wanted more contact with the VIO to help them better understand their duties but the lack of rich information they received made them feel isolated and ignored. This made it difficult for the participants to feel like they were contributing to the VIO's cause. For example, P3 said *"…I really like this project and I like the people, but the part I don't really like, I feel it's hard to get enough involved in… I'm not sure… [if] everything I have done will just be abandoned or I don't know is there meaning of what I am doing now…*".

For non-coordination tasks, such as research, graphic design and other skilled tasks, participants found their tools mostly acceptable with minor issues, such as P5 who thought Nationbuilder (digital marketing web app) had a steep learning curve and P10 who found Canva (the graphic design web app) to be buggy at times. This didn't significantly impact their experiences, however, as they saw these issues as part of the volunteering experience.

4.2 Influence 2: Social connectedness

Participants wanted more social interaction for varying reasons. For example, P7 and P8 worked from home and wanted the social connection to build closer relations with like-minded associates whom they can trust. For example, P8 felt uncomfortable discussing work matters with her existing peers in online communities and would prefer a more intimate group. P7 felt that the more proficient she became in her volunteering, the less people interacted with her as they saw the social interactions as part of the "onboarding" process whereas she saw the interactions as social bonding, stating that volunteering "*…is an isolating experience. While I can talk to people in the office… it's not a daily interaction… and that also limits the extent to which I can develop those relationships… I do miss having an office that has other people in it… because I already know what I'm doing, I don't have to talk to them very often…*".

For P4 and P5, however, they were more interested in the validation of their volunteering efforts by VIO staff because they already lead busy lives with work and social activities. Here the ICTs they used also didn't adequately convey the validation and appreciation to these volunteers. While P4 was satisfied with the emails from the VIO coordinator, she didn't feel valued as a virtual volunteer compared to her previous onsite volunteering where she could connect with others over conversation and social outings such as "pub nights". Likewise, P5 and P6 felt far more connected to the cause when they attended a physical event (P5 an induction session and P6 a programming session) and both felt that email didn't improve their sense of connection, P5 disliking the new Hotmail interface and P6 complaining that he "*…sometimes feel like a slave…*" to his email as he couldn't communicate face-to-face.

Here we see ICTs struggle to support people who want a more socially connected volunteering experience. Even though the tasks were interesting, the participants felt isolated and undervalued, and continued their involvement for reasons other than to seek social connection.

4.3 Influence 3: Self-improvement

A sense of self-improvement influenced the experiences of the participants. Where ICTs was perceived as useful, its usage positively impacted overall experience. For example, P10 wanted to improve her social media marketing skills, so she felt good about the VIO's Facebook page having *"…nearly 5,000 people who like [the] page…*" because she has administered it for more than a year. Interestingly, P6 found learning new software, as part of volunteering, rewarding *"…because I like learning new software… in that sense it was exciting… like a new challenge for me… if they needed something… within 24 hours or 48 hours… I would know exactly what to do…*".

A key point to note is that the perceived usefulness of ICTs in helping the participant learn and improve influenced the quality of their volunteering experience.

4.4 Influence 4: Availability

The participant's availability to volunteer impacted on the quality of their overall experience. Not all participants were able to volunteer as much as they liked, which negatively impacted their overall experience. P3 stated that "*…I'm time poor and I just felt I don't have enough time. So, that make me really frustrated and kind of upset….*". Similarly, P4 regretted her lack of availability, stating it "*…caused me stress, so the guilt or the negative feelings about wishing I could [do more], when I wasn't [doing it] … [and] resenting not having 27 hours in the day…*". Interestingly, P3, P4, and P6 were willing to put more time into volunteering if it helped meet their other motivations. P3 and P6 wanted a mixture of social connection and self-improvement, while P4 was quite adamant about being an equal member of the organisation, stating *"…I don't feel immediately part of the organisation. I haven't been told how the task I've been given fits into the scheme of things, I get the feeling [my work isn't] critical… it might improve their operations… So, I don't feel like I'm an equal member…*". Broadly, participants who were jobseekers were willing to be more available for volunteering if they thought the activity allowed them to learn and improve their skills, whereas the full-time workers were more influenced by the opportunity to make social connections in their volunteering work.

Thus, while ICTs can help participants be more available by making volunteering easier to access, their desire to volunteer must first be supported and nurtured. If ICTs fail to support them in obtaining a sense of meaningful work, social connectedness or self-improvement, the participants will be less willing to devote time and resources to volunteering, leading to poorer experiences when they realise they can't do as much as they would have liked.

5 DISCUSSION

As evidenced in the fieldwork, a variety of skills, ranging from marketing to graphic design to programming have been utilised by virtual volunteers, aligning the findings of this study with examples given in Cravens [4]. Further, P4's demand to be treated equally and P7's lamentations concerning the perceived "pidegonholing" of her role resonates with the recommendations in Cravens [4] that a successful virtual volunteering project requires the VIO staff to actively support and value their virtual volunteers as well as recognise their contributions to the same degree as other volunteers. In the context of HCI, the lack of support from ICTs negatively affects both sides of this relationship. For VIO staff, ICTs must help them better recognise their virtual volunteering colleagues, and, for virtual volunteers, ICTs can make it clearer to them that their staff and onsite volunteering collaborators appreciate their contributions even when they are receiving direct communications on a regular basis. This is something that ICTs used in this fieldwork, such as email and Slack, have demonstrably struggled with and there is room to explore how ICTs can show mutual appreciation without requiring significant effort from both sides.

In relation to the benefits of virtual volunteer for older adults, the sample size of one participant, P4 (who was 56 years of age), is too small to draw any meaningful insights from, although it's worth noting that her yearning for face-to-face engagement in addition to the virtual engagement is in line with the findings presented by Mukherjee [11].

The benefits claimed in Amichai-Hamburger [1], such as the ease of access and exchange of information, finding similar interest groups and the reduction of the usage of harmful stereotypes were not strongly evident in the fieldwork. This could be explained, in part, by the rigid and 'centralised' organisational structure experienced by the participants. While Amichai-Hamburger [1] categorised online volunteering into personal, interpersonal and group benefits, the majority of communications during the fieldwork only occurred between the individual participant and the VIO staff who supervised their work, similar to that reported by Dhebar and Stokes [7], so the benefits derived from interpersonal and group interactions may be reduced. Interestingly, this centralised management approach, where the VIO staff is the main point of contact for all virtual volunteers, could contribute significantly to the workload for VIO staff, making it difficult for them to manage virtual volunteers and thus less willing to even entertain the idea. The recommendations from Dhebar and Stokes [7], such as constant communication with volunteers from recruitment to post-completion, may not be feasible especially for VIO staff who already supervise or manage many onsite volunteers and their own workloads (if they are not a dedicated volunteer manager). From the perspective of HCI, it's important to consider how ICTs could help VIO staff effectively engage virtual volunteers in a

manner that is less resource-intensive but also doesn't diminish the volunteers' the sense of appreciation and recognition. This segues nicely into the following discussion concerning virtual volunteering teams and online communities and how they may provide a more efficient and effective way to engage volunteers.

The disaster and crisis response virtual volunteering teams described in Cobb, et al. [3] and Starbird and Palen [15] leveraged the volunteer group hierarchies and roles to help volunteers collaborate with each other and engage newer team members. While the participants in the fieldwork were organised as individuals working on their own tasks, it's worth considering bringing volunteers together so they can collaborate and learn from each other and also feel a sense of social connectedness through their collaborative efforts, which would have a positive influence on the quality of their volunteering experience based on the influences described in section 4.

In a similar vein, Kittur and Kraut [9] showed that, in the informal volunteering online communities such as Free/Libre and Open Source Software (FLOSS) and Wikipedia, adding more people to a volunteer group will require more coordination efforts within the group. Even though the fieldwork didn't utilise virtual groups, it would be of interest to explore how adding more volunteers to one volunteer group might impact the experience of VIO staff (who then wouldn't have to manage every volunteer individually) and also the volunteers themselves (who now have to coordinate more between those in the group. Further, Cravens [5] found that FLOSS volunteers mainly wanted to improve their skills and share them with others, while Nov [12] discovered that Wikipedia volunteers were motivated by enjoyment and their belief in Wikipedia's mission. These sentiments align with the themes discovered in the fieldwork, namely meaningfulness of work and self-improvement, and could mean that the volunteers' motivations are very similar regardless of whether there is an organisation leading the work or not.

Finally, the "bias for action" approach to virtual volunteering noted in Yamauchi, et al. [19] could be interesting if applied in an organisation-led, formal volunteering context instead of an informal, open-source software context. Allowing volunteers to act first, then discuss after was noted as an effective way for dispersed groups of volunteers to work productively, which is very different from the traditional organisational approach of recruitment, onboarding and management utilised by the VIOs in the fieldwork.

5.1 Design considerations

Considering the strong alignment between the existing literature and the findings in the fieldwork, it's worth exploring design considerations for ICTs that could provide a more effective way for virtual volunteers and VIO staff to work together.

For example, an ICT that helped keep track of all virtual volunteers in one virtual "place" (such as a virtual chatroom) instead of across multiple email threads and messaging channels could provide an efficient way for VIO staff and volunteers to work together and simplify their mental model of what virtual volunteering entails. Eg. "…I'm going to do some volunteering virtually, so I'm going to go to <online platform> to do it…"

Alongside the virtual chatroom, ICTs can take note of the core information that need to be conveyed for any given project and guide VIO staff to provide that information without numerous messages to and from the volunteers. Customisable project templates showing the social impact of the volunteers' contributions could be one straightforward way to hasten the scoping process and provide all volunteers with the information they need to get started. Such a decentralised approach could help avoid the VIO staff being the bottleneck for giving support and attention to the volunteers.

In lieu of face-to-face engagement, allowing people to speak to each other without having to manually "connect" each time could give people a sense that they are always "next to" someone they can talk to, which could help build a greater sense of social connection between the volunteers.

To better support the volunteers in their collaborative efforts, the ICT will need ways for them to communicate with each other and share what they've worked on. One digital manifestation could be an instant messaging service with file upload/download. To further help volunteers feel like they are learning and improving, an online system could track a volunteer's progress in using a skillset and contributing to a project, such as tracking how many lines of code they have written, how many files they submitted etc. This sort of tracking system could also record VIO staff feedback that validates volunteer's work using text or rating-based feedback.

5.2 Future research opportunities

This paper has so far only explored the experience of virtual volunteers working mostly alone. In traditional volunteering, however, a social and collaborative environment is crucial to the retention of volunteers. Thus, exploring how technology helps shape the experiences of virtual volunteers working together would be of great value to VIOs looking to scale their volunteer management capabilities while reducing engagement costs. Based on the discussions presented, potential areas to explore in future research include investigating the phenomenon of, and designing ICTs for: mutual appreciation between VIO staff and volunteers, group-based virtual volunteering and "act first, discuss second" style volunteering.

6 CONCLUSIONS

This paper identified a gap in the HCI literature in relation to formal, organisation-led virtual volunteering. Initial findings from a recent study detailing the main motivations of virtual volunteers, how they impacted the experience of these volunteers and how ICTs can support or enhance their experiences were discussed. Future research opportunities as well as considerations for ICT design are detailed.

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