

FROM CLICKS TO COMMITMENT: LEVERAGING DIGITAL TECHNOLOGIES TO ATTRACT AND RETAIN VOLUNTEERS FOR SUSTAINABLE COMMUNITIES

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ABSTRACT

Volunteers play a vital role in building sustainable communities by supporting social services, environmental projects, and crisis response. However, since the pandemic many countries have seen a decline in volunteering, even though the number of vulnerable groups in need of support is increasing. This paper explores how digital technologies can help both to attract new volunteers and to retain them over time, ensuring their continued contribution to community development. Drawing on recent policy reports and academic studies (2015–2025), we review how digital tools are being used across the volunteer journey, from recruitment and onboarding to engagement, retention, and leadership. We introduce a Volunteer Retention Model, based on Self-Determination Theory (SDT), which shows how technology can support volunteers by meeting their needs for autonomy, competence, and relatedness. While digital tools make volunteering more accessible and flexible, challenges such as digital divides, fragmented platforms, and narrow measures of success limit their long-term impact. The paper highlights practical strategies and under-researched areas, including hybrid volunteering models, inclusive design, and ethical use of AI, offering guidance for organisations to build more resilient and sustainable communities through long-lasting volunteer engagement.

Keywords: Digital Volunteering, Volunteer Retention, Sustainable Community, Self-determination Theory, Long-lasting Volunteer Engagement

1. INTRODUCTION

Volunteers play a crucial role in advancing sustainability by promoting social inclusion, building community resilience, and supporting environmental initiatives (Nurse-Bray et al., 2022). Their contributions extend the reach of public and nonprofit services while encouraging civic participation (Nesbit et al., 2018). Globally, volunteering is recognised as a key driver of the United Nations Sustainable Development Goals (SDGs), as citizen action strengthens government efforts and fosters collective responsibility for sustainable development (Yee et al., 2021).

Despite this importance, formal volunteering has declined in many countries since 2019 (Chambré, 2020; Nesbit et al., 2025; Zhu, 2022). In most countries, participation dropped significantly during the COVID-19 pandemic and remained low through since then, even as demand for volunteer-delivered services increased (Nesbit et al., 2025). This decline has coincided with a rise in vulnerable populations (e.g. disaster-affected communities, low-income households, migrants, and older adults) placing additional pressure on already stretched social services and local governments which could add complexity to mission of building sustainable community (Cameron et al., 2022; Nesbit et al., 2025).

In response, policymakers and sector leaders are turning to digital technologies such as online matching platforms, mobile applications, and virtual volunteering to expand reach, reduce barriers, and improve coordination (Caridà et al., 2022; McNutt et al., 2018). Evidence from the United Kingdom and other pandemic-era initiatives shows that while these tools offer benefits such as greater accessibility and flexibility, they also present challenges related to accessibility, interoperability, digital literacy, and inclusion (Deganis et al., 2021; Radianti & Gjosæter, 2019). This dual reality underscores the central problem: volunteers are essential for national development and sustainable communities, but supply is constrained at the very moment when need is greatest (Chambré, 2020; Nesbit et al., 2025; Zhu, 2022).

This mismatch between rising demand and shrinking supply places increasing pressure on social services and local governments (Anheier et al., 2019; Cameron et al., 2022). While digital platforms have been used effectively to attract volunteers, far less attention has been given to how technology can be designed and applied to retain them over time (Chui & Chan, 2019; Robinson et al., 2021).

The purpose of this paper is twofold: (a). To examine how digital technologies can attract and engage volunteers in social service roles; and (b). To propose a Volunteer Retention Model that explains how digital tools can foster long- term commitment, offering new insights that extend beyond recruitment.

2. METHOD

We conducted an integrative review (2015–2025) focusing on: (i) digital tools that support volunteering (policy/sector reviews), (ii) academic studies on volunteer retention, satisfaction, and digital engagement, and (iii) practice briefs on online/virtual volunteering and inclusion. Sources included government reviews, national volunteering studies, pandemic-era research on digital shifts, and peer-reviewed articles on satisfaction-retention mechanisms and platform design. The goal was theory-informed synthesis to propose a practical model rather than a comprehensive systematic review.

3. RESULTS AND DISCUSSION

HOW DIGITAL TECHNOLOGY ATTRACTS AND LEVERAGES VOLUNTEERS (AIM 1)

Evidence shows that digital technologies play an important role in expanding access and participation across the volunteer journey (Iefimova & Pashchenko, 2025; Perold et al., 2020). Online platforms and marketplaces, including local portals and national hubs, help broaden the reach of opportunities, personalise matching between organisations and volunteers, and surface micro-opportunities such as short-term, skills-based, or remote tasks (Caridà et al., 2022; Chui & Chan, 2019; Iefimova & Pashchenko, 2025; Perold et al., 2020). Once volunteers are recruited, onboarding and training can be made more efficient through e-learning modules, micro-credentials, and quick-start guides, which reduce preparation time and improve quality standards. Similarly, mobile tools such as scheduling apps, instant messaging, and geo-tagging assist in coordinating activities, enabling organisations to mobilise volunteers rapidly, especially during times of crisis such as natural disasters (Abdulhamid Gambo, 2018). Virtual and online volunteering further expand opportunities by allowing individuals with mobility limitations, caring responsibilities, or those living in remote areas to participate (Kamerāde et al., 2024; Lachance, 2021).

Despite these benefits, reviews highlight several challenges. Digital systems are often fragmented, with tools that do not integrate effectively, leading to inefficiencies. In addition, not all volunteers possess equal digital literacy, which limits accessibility for certain groups (Ackermann & Manatschal, 2018; Rianti & Gjørseter, 2019). Organisations that manage to align digital tools across the entire volunteer journey from recruitment to long-term engagement report better continuity, suggesting that success requires integrated and inclusive approaches rather than focusing on recruitment alone (Hopkins & Dowell, 2022; Warburton et al., 2018).

The Volunteer Retention Model highlights four stages -Attraction, Engagement, Retention, and Leadership & Legacy through which digital technologies can strengthen volunteer commitment. At the attraction stage, digital platforms enhance visibility, improve matching, and expand access to opportunities. During engagement, tools such as online training, communication apps, and coordination systems help volunteers integrate effectively into service roles. Retention is supported by recognition features, personalised suggestions, and digital communities that foster a sense of belonging. Finally, empowerment is achieved by offering growth pathways, leadership roles, and opportunities for co-creation, ensuring that volunteers not only remain involved but also contribute to shaping future initiatives. Together, these stages demonstrate how digital systems can move volunteers from initial sign-up toward long-term, meaningful participation in building sustainable communities.

Table 1. Volunteer Retention Model: Digital Technology Interventions

Stage	Primary Objective	Illustrative Digital Interventions
Attraction	Reach and lower entry barriers	Matching portals; social media storytelling; SMS/email alerts; ‘micro-volunteering’ sign-ups
Engagement	Activate support and	App-based rosters; task checklists; bite-size training; multilingual guides; group chats
Retention	Sustain over time	Impact dashboards; e-certificates/LinkedIn badges; feedback loops; tailored suggestions
Leadership & Legacy	Grow capability and identity	Peer mentoring platforms; advanced courses; volunteer-led project spaces; recognition galleries

HOW DIGITAL TECHNOLOGY RETAINS VOLUNTEERS FOR LONG-TERM (AIM 2)

Attracting volunteers is only the first step; retaining them is equally important (Faletahan et al., 2021; Robinson et al., 2021). Retention is strongly linked to factors such as satisfaction, identity, and the alignment between a volunteer's expectations and the role they are given. Research conducted during and after the COVID-19 pandemic indicates that volunteers who found their experience useful and satisfying were more likely to continue, even under difficult circumstances (Haski-Leventhal et al., 2020; Robinson et al., 2021). Digital platforms that offer smart role assignment, timely feedback, and visible recognition contribute positively to satisfaction, thereby increasing the likelihood of long-term commitment (Caridà et al., 2022; Urrea & Yoo, 2023). However, digital divides remain a critical barrier. Without accessible design or personalised support, vulnerable groups such as the elderly, people with disabilities, and low-income volunteers risk being excluded from these systems (Ackermann & Manatschal, 2018; Rianti & Gjøsæter, 2019).

To address this, our analysis highlights eight fresh insights that move beyond transactional measures of retention, such as hours served toward long-lasting engagement. These include designing platforms that foster volunteer identity and meaning, measuring not just quantity but also quality of experience, and integrating hybrid models that combine digital and in-person interactions. Equally important is the development of inclusive design features, such as multilingual content and low-bandwidth access, alongside the ethical use of AI for matching volunteers with roles. Taken together, these insights suggest that digital tools must not only connect people with opportunities but also sustain their motivation and sense of belonging over time.

Table 2. Literature Gaps and Practical Contributions (Retention Focus)

Gap in current literature	Practical contribution this paper advances
1) Retention measured as repeats/hours, not <i>enduring engagement</i>	Design for identity and meaning: narrative-rich dashboards, reflection prompts, and peer storytelling that reinforce a 'changemaker' identity
2) Focus on <i>quantity</i> (counts), not <i>quality</i> (purpose, belonging)	Add experience metrics (purpose, relatedness, learning) to platforms; blend badges with qualitative feedback
3) Vulnerable contexts under- studied	Implement inclusive design: translation, low-bandwidth modes, offline sync, assisted onboarding for disabled/older volunteers
4) Digital vs physical studied in isolation	Build hybrid ecosystems: digital touchpoints between in- person events (check-ins, micro-tasks, learning nudges)
5) Limited cross-cultural insights	Compare urban–rural and multicultural cohorts; tailor features (language, time-use, devices) to context
6) AI personalisation seldom tested ethically	Use transparent, opt-in matching; explain recommendations; minimise bias; let volunteers set learning/impact goals
7) Platform logics emphasise output tracking	Shift to wellbeing-centric design: cadence controls, notification hygiene, burnout flags, optional sabbaticals
8) Fragmented tool stacks, weak data flows	Invest in interoperability (open APIs, credential portability) so recognition and learning travel across organisations

A THEORY FOR THE VOLUNTEER RETENTION MODEL: SDT-VRM

To explain how digital tools can support long-term engagement, we propose a model grounded in Self-Determination Theory (SDT) (Adams et al., 2017; Rigby & Ryan, 2018). This theory highlights three psychological needs that drive motivation: autonomy, competence, and relatedness. Applied to volunteering, autonomy can be supported through flexible role selection, opt-in choices, and the ability to set personal goals. Competence is enhanced when platforms provide micro-learning resources, task-specific guidance, instant feedback, and visible pathways for skill progression. Relatedness is fostered through digital spaces that enable teamwork, mentoring, recognition from beneficiaries, and community-building activities.

The assumption is when these needs are met, volunteers experience greater satisfaction, which strengthens their commitment and leads to higher retention. We refer to this framework as the Self-Determination Theory–Volunteer Retention Model (SDT-VRM). Based on this model, we propose several design principles: features that strengthen autonomy are likely to improve perceived usefulness and length of service; competence-building features enhance confidence and reduce drop-out; and relatedness-supporting features strengthen volunteer identity, leading to long-term engagement. Importantly, in communities with high vulnerability, inclusive design and assisted digital onboarding are essential to ensure that these benefits reach all volunteers.

PUTTING THE MODEL TO WORK (PRACTICE BLUEPRINT)

The proposed model can be translated into practical strategies for organisations. First, organisations should map the volunteer journey and identify points where participants are most likely to disengage. Platforms should capture not only activity data, such as hours served, but also experience-related signals, such as a sense of purpose and belonging. Second, every iteration of digital tools should be designed to support autonomy, competence, and relatedness, ensuring that core motivational needs are consistently addressed. Third, hybrid models should be the default approach, combining digital touchpoints such as reminders, learning prompts, and feedback messages with face-to-face events to maintain momentum and connection. Fourth, inclusive onboarding is critical, especially for vulnerable groups. Organisations should provide low-bandwidth options, multilingual resources, accessible formats, and one-to-one digital assistance where necessary. Finally, ethical use of AI and data systems must be prioritised. Matching algorithms should be transparent, allow volunteers to set their own goals, and minimise risks of bias or exclusion. Portability of digital credentials across organisations would further strengthen recognition and continuity. By applying these principles, organisations can transform digital tools from recruitment aids into systems that sustain meaningful, long-term volunteer engagement, thereby building stronger and more sustainable communities.

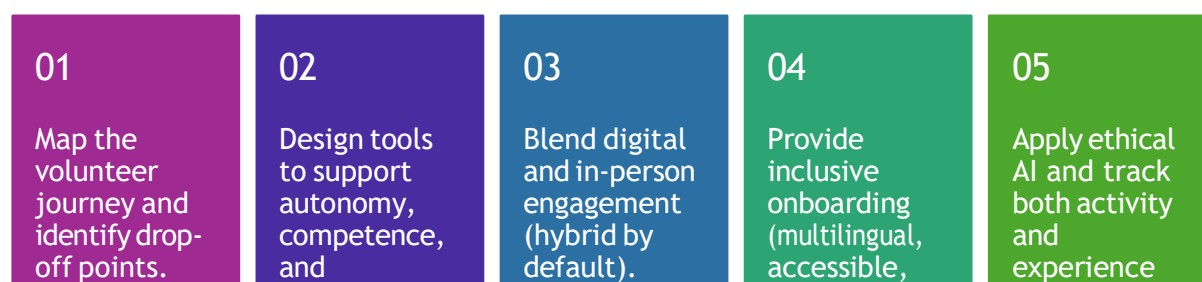


Figure 1. Practice Blueprint for Organisations

4. CONCLUSION

Attracting volunteers through digital platforms is important, but on its own it is not enough to build sustainable communities. For digital technologies to make a real difference, they must be designed to not only recruit but also retain volunteers. When guided by Self-Determination Theory (SDT), digital systems can meet volunteers' core needs for autonomy, competence, and relatedness. Flexible roles, micro-learning opportunities, clear feedback, and community recognition help volunteers feel valued and capable, which in turn builds satisfaction and a strong sense of identity. These are the foundations of long-term engagement. Evidence from the pandemic and recent studies shows that digital tools work best when they are part of a hybrid model that blends online and in-person interactions, when they include accessible and inclusive design for vulnerable groups, and when they use ethical approaches to data and AI. Social service organisations should therefore treat digital platforms as retention engines, integrating features such as impact dashboards, reflective prompts, peer recognition, and transparent matching systems. By doing so, they can move volunteers from simple sign-ups to lasting commitment, strengthening both social services and the wider community.

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