A Socio-Technical Framework for Investigating Hybrid Work in Non-Profit Organisations: A UK Case Study

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Abstract

In recent decades, the many challenges triggered by unprecedented socioeconomic, geopolitical, and unexpected events have exacerbated the changes in the world of work. Hybrid work represents further theoretical and empirical advancements in the footsteps of remote, flexible, agile, and smart working phenomena. Hybrid work represents a twofold modality of work in which some days working "in presence" (employer's workplace) and other days working "remotely" (outside the employer's workplace) are combined. Many scholars have debated the future of work investigating the adoption and implementation of hybrid working. Some researchers have analysed this phenomenon in different sectors, considering the potential impacts on workers, at managerial and organisational levels. However, room for further investigation refers to hybrid work in non-profit organisations (NPOs), given the typical peculiarities and preconditions of such an organisational form. NPOs belong to the broader non-profit sector (NPS), ranging from tertiary and non-governmental organisations, including foundations, philanthropic, and volunteer entities. Although NPOs apparently operate like any other organisation, they differ significantly in their unique nature based on the primacy of nonfinancial outcomes and the absence of incentives to increase productivity. In addition, NPOs are becoming increasingly important in a globalised world, considering their involvement in supporting society in overcoming unprecedented socioeconomic and geopolitical challenges. Accordingly, it is likely that NPOs have undergone many challenges in terms of work overload from increased demand by the NPO's consumers (consider the additional effort to support society during the pandemic of COVID-19). Based on these assumptions, this work-in-progress contributes to advancing a discussion on hybrid work through a single case study based on an NPO operating in the United Kingdom. To closely investigate hybrid work in NPOs, this study draws on the recent literature examining the DT process of NPOs, given the strong relations between the two phenomena. At the same time, a socio-technical perspective is adopted to develop a preliminary understanding of how the NPO redesigned work practices changing workplaces during COVID-19. Implications, limitations, and future steps are discussed.

Keywords

Non-profit organisations, digital transformation, hybrid work, COVID-19, single case study

1. Purpose and background

In recent decades, the many challenges triggered by unprecedented socioeconomic, geopolitical, and unexpected events have exacerbated the changes in the world of work [1]–[3]. Among others, the multiscale and multilevel shocks triggered by the COronaVirus Disease 19 (COVID-19) have significantly contributed to the digital transformation (DT) of work [4], introducing hybrid work in every form of organisation [5]. In a post-pandemic society, hybrid work is then fostered by organisations as a strategic choice in reshaping the reorganisation of working methods for responding to competitive, social, and environmental challenges [6], [7]. Hybrid work represents further theoretical and empirical advancements in the footsteps of *remote*[8], [9], *flexible* [10], [11], *agile*[12], [13], and *smart* working [2], [14], [15] phenomena (to mention some). Although these similar terms have been interchangeably used over the years[14], academics and

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practitioners alike generally recognise such phenomena by referring to working remotely [16] using IT devices and office equipment [15]. In other words, a method of organising and performing work by which the employee works outside the employer's workplace [17]. Nowadays, the term hybrid work represents a twofold modality of work in which some days working "in presence" (employer's workplace) and other days working "remotely" (outside the employer's workplace) are combined.

Some researchers recognise the technology and hybrid work nexus, considering that the dynamics of the social relations and spatial arrangements co-exist and co-evolve, combining both aspects of virtuality and materiality [18]. It is important to study the interrelated activities, processes, and mechanisms of hybrid working considering the different locations of employees' spatial and temporal settings as they impact social relations in and outside office settings [18]. Accordingly, hybrid work usually requires organisational and managerial work practices to be redesigned from both operational and strategical standpoints [19]–[22]. Following the sociotechnical tradition in the footsteps of Enid Mumford [23], [24], a socio-technical perspective could support the investigation of how an organisation redesigned work practices changing workplaces. In this regard, if seen through the socio-technical paradigm [25], an organisation is composed of two interacting subsystems. The social system (composed of people and structures) and the technical system (composed of technology and tasks) [25]. From this perspective, because these connected subsystems mutually interact [26], the redesign of a twofold modality of work could generate social and technological implications affecting people and organisations [27], considering the pivotal role technology plays in enabling remote working [22], [27].

Furthermore, many scholars have contributed to advancing an understanding concerning the future of work [28], [29] by examining the adoption and effective implementation of hybrid working [3], [30]. Other researchers have systematically investigated barriers and enabling factors [31], digital workplaces and related implications concerning different generations concurrently affected [32]. Some others have analysed this phenomenon with regard to different sectors [8], [9], [28], [33], the potential impacts on workers' mental and physical health [34], as well as at the managerial [35], [36] and organisational level [28], [37]. However, although scholars have widely debated this phenomenon by examining public [38]-[40] and for-profit organisations [32], hybrid work in non-profit organisations (NPOs) remains under-researched in the literature, apparently due to the typical peculiarities and preconditions of such an organisational form [41], [42]. In addition, further researchers have noticed a significant increase in the importance given to NPOs in responding to current social issues [41]. However, although NPOs apparently operate like any other organisation [43], NPOs are flagships of a unique organisational nature based on non-distributional constraints, the primacy of nonfinancial outcomes, and the deployment of their values structured around a social mission [44]. According to Salamon and Sokolowski [45]an NPO is defined as an (a) Institution, (b) Private, (c) Selfgoverning, (d) Non-profit-distributing, and (e) Without compulsion (any participation is voluntary-based).

Moreover, NPOs differ in operation and importance depending on the continent or geographical area in which they operate [41]. In general, NPOs are primarily committed to improving the quality of life in society by responding flexibly to public demands for education and health aid [41], distributing resources and providing helpful services to underserved communities [46]. Accordingly, it is likely that NPOs have undergone many challenges in terms of work overload from increased demand by the NPO's consumers/beneficiaries (consider the additional effort to support society during the pandemic). In this perspective, room for further investigation refers to hybrid work in NPOs. Thus, this study questions: do NPOs redesign work practices, changing workplaces to support a digitalised society in challenging times (such as during the pandemic), and what is their technology and hybrid work nexus?

The aim of this work-in-progress is to advance a discussion on hybrid work through a single case study [47] based on an NPO operating in the United Kingdom (UK). To adopt an organisation-centred approach for closely investigating hybrid work in NPOs, this study draws on the recent literature examining the DT process of NPOs [43], [46], [48], given the strong relations between the two phenomena [4], [49], [50]. Then, the research protocol included the development of a

tailored semi-structured interview based on a conceptual DT framework for NPOs that two of the present authors developed in a previous step of analysis and review of the literature [51]. Since the research design followed the socio-technical tradition in the footsteps of Enid Mumford [23], [24], we extend such a framework by adopting a socio-technical perspective to examine how the NPO redesigned work practices during COVID-19.

As a preliminary result, this work sheds light on some peculiarities and difficulties concerning a sudden shift from traditional non-profit operations to a new set of digitalised and remote ones that should be carefully addressed by NPOs operating in the digital era.

Hence, seen as a pilot study, this work could contribute to the future design and development of research on hybrid work in the context of NPOs. This line of inquiry may further contribute to the discussion concerning the interconnection between the DT and hybrid work phenomena in NPOs (deserving both for further investigations in accordance with the current literature). At the same time, this discussion could be helpful for NPOs' managers, directors, policymakers, and IT specialists as they might leverage hybrid work to sustain the existence of an NPO in the digital era [52]. For example, because of the lack of resources or IT skills that remain for NPOs in the 2020s [48], DT and hybrid work could support NPOs to foster alternative forms of participation by leveraging online services/competencies/work [53]. As a further example, an IT expert may be willing to volunteer to support the adoption of cloud-based services required to manage home caregivers' medical records [54], [55].

2. Approach and research method

This section summarises the research protocol adopted for this study. In the first subsection, we describe the specific theoretical propositions used to develop a semi-structured interview. In the second subsection, we report the semi-structured interview, including information on the data collection. Finally, in the third sub-section, we briefly describe the case analysed (i.e., the legal identification according to the UK regulations, the main aims and objectives concerning the non-profit activity, the number of employees and volunteers, the year of establishment, and some information about the interviewee and the interview).

2.1. Case study design

This work-in-progress paper follows in the footsteps of a single case study based on Yin's [47]suggestions. The case study method is adopted to advance knowledge concerning individuals, groups, organisations, and societies through investigations of two phenomena within the actual context of an NPO [47]. Specifically, this study aims to qualitatively explore how an NPO fosters DT initiatives and whether those are related to hybrid work. Then, attention is given to the impact of the factors influencing the NPO's work and related organisational changes [47].

Among the few studies strictly examining the DT process of NPOs [43], [46], [48] provided by the literature, this research is based on the results of a previous step of our project intended to review the state of the art of the debate concerning DT initiatives in NPOs [51]. Specifically, the case study design depends on the results of a meta-synthesis of selected journal articles summarising the literature [51] among other valuable studies discussing the same phenomena. Moreover, the latter research included the development of a rigorous taxonomy of five dimensions with a total of 29 different values that could support the identification of the specific characteristics of a DT initiative fostered by an NPO. At the same time, such a taxonomy is employed for classifying the sample of articles. Afterwards, the taxonomy dimensions are arranged according to both organisational and technological perspectives, suggesting a lens of analysis for exploring potential stimuli and effects affecting or generating DT initiatives in NPOs [51]. Then, the main contribution of such research is represented by a conceptual framework that we theoretically derived for supporting researchers in conducting empirical investigations concerning the DT of NPOs [51].

Before explaining the design of the semi-structured interview, we report the five dimensions and describe the reworked conceptual framework. Notably, each dimension is mutually exclusive and concerns a specific focus regarding the DT in NPOs, that is, Digital Scope, Organisational Scope, Organisational Involvement, Organisational Element and Operational Level (see Table 1).

Dimension	Description
Digital scope	This dimension aims to foster an understanding about the technology to be employed or developed through a DT initiative. It would support NPOs management to realise the extent of the strategy towards innovation and new information technology.
Organisational scope	This dimension intends to propose a comprehension about an NPO's scope to be pursued or supported through a DT initiative. It would support NPOs management to realise the way in which digital technologies alter an NPO's business model.
Organisational involvement	This dimension aims to promote a comprehension about the position of the NPO in its business environment. It would support NPOs management to create a set of strategic decisions to achieve an NPO's future business scope.
Organisational element	This dimension aims to foster an understanding about the organisational element involved in a DT initiative. It would support NPOs management to realise the extent of the operational changes in relation to the related structures.
Operational level	This dimension intends to promote a comprehension about the operational business level involved in a DT initiative and in charge of the transformation endeavour. It would support NPOs management to recognise if these new operations could be integrated into the existing corporate structure rather than developed in collaboration with other businesses.

Description of the dimensions generating a conceptual framework for analysing DT initiatives in	
NPOs (adapted from Cipriano and Za [51])	

Table 1

For this study, we adopt such a theoretical proposition for guiding the data collection and analysis concerning an NPO operating in the UK. To collect empirical evidence that extends and enriches the findings of previous studies [43], [46], [48], we designed a semi-structured interview and an informative questionnaire to support the involvement of participants (including some illustrative questions). The semi-structured interview is based on four main areas of investigation, which seek to explore the different dimensions of the DT in NPOs accordingly [51]. For this research, we consider each dimension as an area of investigation. Besides, this research follows the sociotechnical tradition in the footsteps of Enid Mumford [23], [24] to adopt such a theoretical proposition for designing and developing empirical investigations. From this perspective, we rework the mentioned framework [51] in agreement with the approach adopted for the present study (see Figure 1), seeking to improve the assumption that a DT process in NPOs could be seen as a socio-technical phenomenon [25], [26]. Therefore, we integrated the previous conceptual framework [51] by recognising a specific component of the socio-technical structure of an NPO for each dimension [25], [26] for supporting empirical investigations also regarding hybrid work.

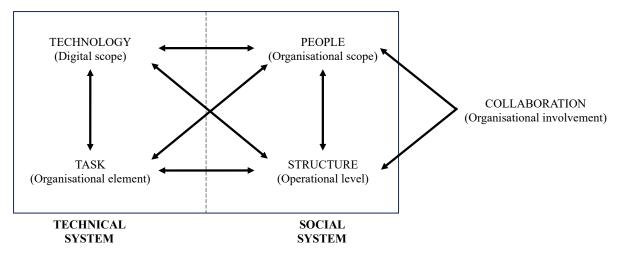


Figure 1: A conceptual framework for analysing DT initiatives in NPO (adapted from Cipriano and Za [51])

2.2. Data collection

Table 2

Drawing on such theoretical preposition, we then design a specific interview protocol to explore how the NPO perform its work practices and everyday activities while examining potential DT initiatives, the digital technologies' role, and hybrid work. Since the interview is semi-structured, participants are asked to answer open questions or talk freely, lasting from 30 minutes to an hour. Then, the semi-structured interview is intended to investigate the five socio-technical components identified in Figure 1 (people, technology, structure, task, collaboration), which represent the five dimensions of the DT in NPOs [51]. By shifting from theory to practice, however, we decided to simplify the interview design further to make it easier for potential participants to understand our goal and provide answers accordingly. We did this considering the peculiarities of this organisational form emerging from the pertinent literature after some preliminary interaction with the NPO's representative. Specifically, we sent a first email to potential participants to confirm their willingness to participate in our project, visited the NPO and tried to keep in touch by calling. From these interactions, we suddenly noticed that the representative of the NPO was poorly informed about DT and how the NPO manage IT-related aspects and issues (i.e., considering that the NPO significantly changed how they worked during COVID-19). Accordingly, we reworked the five areas into only four: Organisational, Technological, Operational, and Change (see Table 2). Specifically, we sought to include the focus of each dimension anyway, supposing to deeply explore each one of them while starting a more friendly discussion in the first place. Thus, two open questions were developed for each area, totalling eight questions for our semi-structured interview.

Structure and questions of the semi-structured interview						
Dimension	Description					
Organisational	 How is the NPO organised (resources, employees, infrastructure, internal and external professionals' roles, competencies required to develop/provide products/services)? 					
	How does your organisation produce and provide services/products to achieve one or more non-profit scopes?					
Technological	 Why and what technology does your organisation exploit in pursuing one or more purposes? How it affects your work? 					
	2. Can you make an example of how and which steps have your organisation taken to adopt and use technology(es)?					

Structure and questions of the semi-structured interview

Operational	. How do you do your job, and what work practices do you usually perform in a typical day?					
	 Can you make an example of how your organisation handle training and skills, information and data, how you interact, and outsourced products/services/technology-related competencies? 					
Change	What challenges/changes or improvements have your organisation dealt with (is doing), and how were they handled? (<i>e.g., concerning processes, resources, reskilling of competencies</i>)					
	2. Can you make an example of how and what actions have your organisa taken to sustain its operativity during the COVID-19 pandemic?					

For this preliminary study, we then consider a single NPO operating in the Hampshire province (UK) and focus on one interview with one director of the NPO. Furthermore, to simplify data collection, the participant has been welcome to choose an in-person or online meeting. The interview was recorded and then transcribed using the NVivo software [56].

Concerning the triangulation of data, we collected a diary and notes before, during, and after the interview, as well as the overview and background of the organisation, history and context (gathered from secondary sources), and the participant's employment history (within the NPO [47]). Further documentation has been retrieved from the official webpage of the UK government², such as annual reports, changes of directors or legal forms, and information concerning the objectives of the NPO. Moreover, the data used in this study are anonymous and confidential. They do not directly identify the NPO or the participant. In presenting the preliminary findings of this research, the anonymous case and the corresponding interviewee are assigned the identifier (ID) - "NPO-1".

2.3. Case presentation

Concerning the NPO representing the case of this study, one researcher attended a volunteering fair event organised by the University of Portsmouth (UK) in October 2022, where he met the NPO representative and had a first chat. Then, we sent an invitation by email. Based on the feedback received (as mentioned in the previous section), we developed an informative questionnaire to facilitate the representative to participate in our research. The informative questionnaire consists of a brief explanation concerning this research and the corresponding researchers, including a description of the four areas of investigation and some related questions (see Table 2) we intended to submit to the participant. Hereafter, we provide a description summarising some information useful to identify the characteristics of the NPO.

• NPO-1 is an independent family support charity established in 1992 and has supported thousands of families in the city since its launch. It offers a unique service to parents (with at least one child under school age) through the provision of trained and supervised volunteers who visit families in their own homes and through professionally run family groups, both of which offer regular, informal support, friendship and practical help. The board of members consists of 7 trustees who receive any remuneration, payment or benefit, and 80 volunteers are involved through the different operations. This charity raises funds from the public but does not work with professional fundraisers or commercial participators. Also, it is part of a leading organisation that coordinates and supports all affiliates around the UK.

Some information concerning the interviewee and the interview is in Table 3 below.

Table 3 Information concerning the interviewee and interview

ID	Gender, Age	Role	Background	Modality	Date	Duration
NPO-1	Female, 54	Coordinator	A-lev., volunteer	In person	23/12/2022	53:12 m.

² https://www.gov.uk/

3. Preliminary findings

Since this is working-in-progress research, this paper proposes preliminary results using some extracts from the interview. We attempt to outline some generic tips or evidence from each question (as in Table 2), seeking to explore each dimension of the adopted framework from a practical perspective. These results would represent a starting point for performing a thorough, in-depth (three-stage open, axial, and selective coding) analysis. Specifically, the following step intends to classify and code the interview using NVivo (in addition to enriching the number of interviews) to test and evaluate the reliability of the theoretical proposition [51] and provide a comprehensive thematic analysis of the two phenomena. That being said, preliminary results are presented according to the four areas of investigation (see Table 2): Organisational (1) investigating the *organisational scope* and *organisational involvement* dimensions, Technological (2) exploring the *digital scope* and *organisational element* and *organisational involvement* dimensions, and Change (4) exploring more generic aspects such as type, issue, and action undertaken.

3.1. Organisational area

Regarding area (1), the interview started by asking the participant to introduce herself and then moving forward to talk about the organisational structure, operations, main objectives, and operability of the NPO in which she operates. As a result, this area promotes the investigation of the main objectives of an NPO and the role of the participant in the NPO.

For example, NPO-1 stated:

"I am one of the coordinators who work for NPO-1 for nearly 19 years... There are now ten staff that work here... I started, though, two years before that as a volunteer... I am a mum, and that is how I got to find out about NPO-1... I became a volunteer because I knew how lonely it could be...".

Interestingly, from other extracts, it also emerges further information concerning the profile and competencies required by NPO-1 and the specific aim pursued by NPO-1:

"I had kept very busy doing lots of community work as a volunteer. To be a coordinator, you do have to be a parent with NPO-1 staff, which is one of their sorts of criteria for staff. You have to direct, and you have to be a parent, as you need to have empathy and understanding of why parents find life difficult at times... I have various qualifications, but I do not have any degree; I have just done on-the-job experience... NPO-1 prefer a degree level of education to be a coordinator...".

3.2. Technological area

Focusing on area (2), it emerged that an unprecedented use of technology has been triggered by the need to ensure the NPO-1 works during the pandemic. This area allows for recognising the preconditions and effort of an NPO to adopt technology, as well as to investigate the redesign of some typical work practices. At the same time, this area could support examining the social relations and spatial arrangements of hybrid working. For example, it emerged that the NPO-1 did not mainly develop digital operations until the shocks triggered by COVID-19:

"We stepped up technology use massively during COVID-19, which was also required to manage the enormous workload through all our individual and separate ways of working... There has been much extra work for us. This was because we had lots of extra training for reorganising activities and keeping everybody doing their job using technology, which was very difficult... And working at such a high rate on your own at home was very discouraging for us, and I think it has taken us a while to regroup as a team and feel that team morale again...".

In addition, this area supports identifying the specific technology adopted and some information concerning the pre-, post- and adoption phases. NPO-1 stated: *"Our social media channels have stepped up a massive notch during COVID-19. Before that, we were active but nowhere near as active as now... We use a cloud service platform with particular benefits as we are*

an NPO, shared folders, zoom... We started using new things like Amazon Wish List... We developed our website for the general purpose of sharing information about the organisation and employed somebody to do its initial setup because we had no expertise amongst the team...".

3.3. Operational area

Concerning area (3), interesting insights emerged regarding aspects of virtuality and materiality related to work practices and workplaces affected by DT initiatives and hybrid working in the NPO. For example, NPO-1 described some new operational practices of the NPO by discussing the type of resources they use and how they handle their functions, processes, or training:

"Compared to where we were, we are much more digitally able now. It has been strangely revolutionary to ask individuals to coordinate stuff through simple and basic technology... We got our own working mobile we use to work phone or send WhatsApp messages to families because many of our families do not have credit... As soon as we could get back together as a team, we reorganised work by looking after ourselves and done as a mixture of online and face-to-face operations...".

In addition, this area allows examining aspects regarding the training activities, which could even recognise the involvement of some external collaboration:

"There are different levels of expertise within the team, and few of us are very skilled and could support all the others in performing the work. We have qualified trainers, so we have all done training for training, and we all must be able to train other people. We are all trained to go to a high level in different ways, and we all have to do safeguarding training... Regarding social media, NPO1-1 have been working on that, but we have no specialised training. We have been on training courses that the City Council have put on...".

3.4. Change area

Finally, concerning area (4), the participant disclosed the many challenges the NPO had to deal with during the COVID-19 pandemic, especially considering their primary aims structured around their missions in supporting families. This area could offer many valuable insights to explore the preconditions, shortcomings, and benefits of the DT of the NPOs' work, including hybrid working. In other words, this area could support the analysis and development of recommendations helpful in designing DT initiatives to cope with a wide range of major societal challenges. For example, it appears that NPO-1 drastically changed how it operated, as it needed to react and keep pursuing its mission suddenly because of an unexpected event:

"When the pandemic happened, we had one day to prepare. We had all the paper files in my room. I had to borrow one of my children's Chromebooks because I never needed a laptop at home. We have no facility even to access our database from home. We had plans to become paperless slowly, but there was no rush because we did not think we needed it, mainly since it was just the leading "NPO-1" who wanted us to move on through time. Then, the pandemic hit, and we had to do that immediately. So, there was a considerable period of change where we were scrambling around doing the best we could from home (because our workload went through the roof) because the NPO-1 visitors all had to be retrained and put back in the hospitals. So, all the families were looking to us to do more work, to cover and make sure that we were in touch with families doing doorstep visits, all sorts of things because you cannot just leave all these families in need...".

4. Implications, limitations, and future steps

This paper provides some preliminary results concerning a single case study that explores the DT of work and hybrid work of an NPO operating in the UK. In the footsteps of the socio-technical paradigm, we reworked a conceptual DT framework for NPOs [33] based on five mutually exclusive dimensions useful to identify the characteristics of DT initiatives fostered by NPOs. To design a semi-structured interview to perform empirical investigations, we also reworked the

five dimensions by identifying four main areas of investigation. While this work-in-progress offers a preliminary understanding of the research, our goal is to develop an extended and thorough in-depth (three-stage open, axial, and selective coding) analysis based on empirical evidence [57], [58]. Hence, this research will explore the peculiarities characterising the sociotechnical changes in NPOs' work practices and workplaces.

Our semi-structured interview is likely to support exploratory investigations concerning how an NPO: (i) implements digital technologies (either hardware or software); (ii) redesigns organisational' products, services, and procedures (e.g., paperless operability) or develops others that meet the needs of a digitalised society, as well the work practices and related skills and competencies; (iii) develops or redesign how it keeps or builds its relationships with multiple stakeholders; (iv) trains staff to deal with sensitive information and personal data, (v) sustains additional expenses for acquiring technology and experts that implement it.

From a theoretical perspective, this research would complement previous work, expand the existing body of knowledge, and lay the groundwork for further investigations, such as multiple case studies (cross-sectoral/cross-national comparison). Drawing on such preliminary findings, this work should provide a qualitative analysis based on empirical insights that could also improve, enrich, and test a theoretically derived framework [51].

In addition, this research would systematise practical implications that might support NPOs' founders, managers, policymakers, and governmental institutions to design, develop, and govern DT initiatives and hybrid work in NPOs. It would offer an analytical generalisation useful to draw recommendations on mitigating and overcoming the implications identified by analysing the work practices of NPOs operating in the 2020s (e.g., by exploring the relationship between dimensions of work engagement, such as vigour at work, dedication to work, and absorption in work, and different working practices including remote, hybrid, and onsite working). It might also support the advancement of the debate concerning how NPOs organise community resilience in a post-pandemic era. By finalising the in-depth analysis of the interviews, we intend to derive a list of initiatives, considering identifying their characteristics according to the five dimensions, helpful in developing recommendations for NPOs' policymakers and managers in designing DT initiatives and hybrid working.

Besides, this research is not without limitations. This work is restricted in the number of interviews and the depth of the analysis. Currently, it does not provide an exhaustive analytical generalisation of the results. Then, we could increase the number of participants for this case (or select additional cases) or perform further rounds by interviewing the same participant in further steps.

Future research should also investigate the strategies that could support NPOs in defining additional competencies or even promote a shift in the skill set within the existing organisational staff of an NPO. For example, considering the many difficulties that remain for NPOs in the 2020s, NPOs might consider alternative forms of work as opportunities to acquire a skilled workforce and young, formally qualified employees/volunteers who would take advantage of their digital affinity and knowledge of digital tools.

References

- [1] A. Baiyere, E. Mosconi, L. Wessel, and M. Indulska, "Frontiers in Digital Transformation Research," *Information Systems Journal*, no. Special Issue Call for Papers, 2022.
- [2] P. M. Bednar and C. Welch, "Socio-Technical Perspectives on Smart Working: Creating Meaningful and Sustainable Systems," *Information Systems Frontiers*, vol. 22, no. 2, pp. 281–298, Apr. 2020, doi: 10.1007/s10796-019-09921-1.
- [3] Antonelli et al, "Il futuro del lavoro si chiama 'smart working'? riflessioni e prospettive," *Prospettive in Organizzazione*, pp. 1–45, 2023.
- [4] L. Nagel, "The influence of the COVID-19 pandemic on the digital transformation of work," *International Journal of Sociology and Social Policy*, vol. 40, no. 9/10, pp. 861–875, Dec. 2020, doi: 10.1108/IJSSP-07-2020-0323.

- [5] C. Rapanta, L. Botturi, P. Goodyear, L. Guàrdia, and M. Koole, "Balancing Technology, Pedagogy and the New Normal: Post-pandemic Challenges for Higher Education," *Postdigital Science and Education*, vol. 3, no. 3, pp. 715–742, Oct. 2021, doi: 10.1007/s42438-021-00249-1.
- [6] OECD, "Teleworking in the COVID-19 pandemic: Trends and prospects," *OECD Policy Responses to Coronavirus (COVID-19)*, pp. 1–12, 2021.
- [7] A. Raghavan, M. A. Demircioglu, and S. Orazgaliyev, "COVID-19 and the New Normal of Organizations and Employees: An Overview," *Sustainability*, vol. 13, no. 21, p. 11942, Oct. 2021, doi: 10.3390/su132111942.
- [8] Y. Zhang, "Privacy-Preserving with Zero Trust Computational Intelligent Hybrid Technique to English Education Model," *Applied Artificial Intelligence*, vol. 37, no. 1, Dec. 2023, doi: 10.1080/08839514.2023.2219560.
- [9] E. L. Glaeser, "Reflections on the post-Covid city," *Cambridge Journal of Regions, Economy and Society*, vol. 15, no. 3, pp. 747–755, Dec. 2022, doi: 10.1093/cjres/rsac039.
- [10] J. (Jamie) Seo and E. E. K. Kim, "Flexible work systems: preparing employees for the new normal," *Journal of Business Strategy*, May 2023, doi: 10.1108/JBS-10-2022-0175.
- [11] E. G. Margherita and A. M. Braccini, "Industry 4.0 Technologies in Flexible Manufacturing for Sustainable Organizational Value: Reflections from a Multiple Case Study of Italian Manufacturers," *Information Systems Frontiers*, Jul. 2020, doi: 10.1007/s10796-020-10047-y.
- [12] R. M. Burton and B. Obel, "The science of organizational design: Fit between structure and coordination," *Journal of Organization Design*, vol. 7, no. 1, 2018, doi: 10.1186/s41469-018-0029-2.
- [13] H. Li, Y. Wu, D. Cao, and Y. Wang, "Organizational mindfulness towards digital transformation as a prerequisite of information processing capability to achieve market agility," *J Bus Res*, no. October, pp. 1–13, 2019, doi: 10.1016/j.jbusres.2019.10.036.
- [14] R. Cuel, E. Cacciatore, A. Ravarini, and L. Varriale, "Do Organizations Need a Head of Remote Work?," 2022, pp. 274–286. doi: 10.1007/978-3-031-10902-7_19.
- [15] A. Ravarini and G. Strada, "From Smart Work to Digital Do-It-Yourself: A Research Framework for Digital-Enabled Jobs," in *Network, Smart and Open*, 2018, pp. 97–107. doi: 10.1007/978-3-319-62636-9_7.
- [16] S. Krishnakumar and J. Choudhury, "Understanding the Nuances of Work-Life Balance," *Review of HRM*, vol. 3, no. April, pp. 81–90, 2014.
- [17] A. Wontorczyk and B. Rożnowski, "Remote, Hybrid, and On-Site Work during the SARS-CoV-2 Pandemic and the Consequences for Stress and Work Engagement," *Int J Environ Res Public Health*, vol. 19, no. 4, p. 2400, Feb. 2022, doi: 10.3390/ijerph19042400.
- [18] M. B. Watson-Manheim, "Information Systems Journal: Special Issue The new wave of 'hybrid work': An opportunity to revise assumptions and build theory," *Wiley Online Library*, no. 1, 2021.
- [19] T. Torre, D. Sarti, and G. Antonelli, "People Analytics and The Future of Competitiveness: Which Capabilities HR Departments Need to Succeed in the 'Next Normal," in *HR Analytics and Digital HR Practices*, Singapore: Springer Nature Singapore, 2022, pp. 1–24. doi: 10.1007/978-981-16-7099-2_1.
- [20] F. O. Uru, E. Gozukara, and L. Tezcan, "The Moderating Roles of Remote, Hybrid, and Onsite Working on the Relationship between Work Engagement and Organizational Identification during the COVID-19 Pandemic," *Sustainability*, vol. 14, no. 24, p. 16828, Dec. 2022, doi: 10.3390/su142416828.
- [21] C. W. Phang, Z. Fang, and C. Liao, "The Effectiveness of Highlighting Different Communication Orientations in Promoting Mobile Communication Technology at Work vs. at Home: Evidence from a Field Experiment," *J Assoc Inf Syst*, vol. 24, no. 3, pp. 818–845, 2023, doi: 10.17705/1jais.00803.
- [22] S. Halford, "Hybrid workspace: re-spatialisations of work, organisation and management," *New Technol Work Employ*, vol. 20, no. 1, pp. 19–33, Mar. 2005, doi: 10.1111/j.1468-005X.2005.00141.x.

- [23] E. Mumford, *Dangerous Decisions*. Boston, MA: Springer US, 1999. doi: 10.1007/b102291.
- [24] E. Mumford, "Problems, Knowledge, Solutions: Solving Complex Problems," in *International Conference on Information Systems (ICIS)*, 1998. doi: https://aisel.aisnet.org/icis1998/62.
- [25] R. P. Bostrom and J. S. Heinen, "MIS Problems and Failures: A Socio-Technical Perspective. Part I: The Causes," *MIS Quarterly*, vol. 1, no. 3, p. 17, Sep. 1977, doi: 10.2307/248710.
- [26] S. Sarker, S. Chatterjee, X. Xiao, and A. Elbanna, "The Socio-technical Axis of Cohesion for the IS Discipline: Its Historical Legacy and its Continued Relevance," *MIS Quarterly*, vol. 43, no. 3, pp. 695–719, Jan. 2019, doi: 10.25300/MISQ/2019/13747.
- [27] OECD, "Teleworking in the COVID-19 pandemic: Trends and prospects," *OECD Policy Responses to Coronavirus (COVID-19)*, pp. 1–12, 2021, [Online]. Available: http://dx.doi.org/10.1787/72a416b6-en
- [28] G. F. Haubrich and E. Hafermalz, "Working Hybrid at Universities : Old, Yet New Practice?," in Forty-Third International Conference on Information Systems, (ICIS2022), Copenhagen, Denmark, 2022.
- [29] A. Verma, M. Venkatesan, M. Kumar, and J. Verma, "The future of work post Covid-19: key perceived HR implications of hybrid workplaces in India," *Journal of Management Development*, vol. 42, no. 1, pp. 13–28, Jan. 2023, doi: 10.1108/JMD-11-2021-0304.
- [30] P. Weritz, J. Matute, J. Braojos, and J. Kane, "How much digital is too much? A study on employees ' hybrid workplace preferences," in *Forty-Third International Conference on Information Systems, Copenhagen 2022*, 2022, pp. 0–17. [Online]. Available: https://aisel.aisnet.org/icis2022/is_futureofwork/is_futureofwork/3/?utm_source=aisel .aisnet.org%2Ficis2022%2Fis_futureofwork%2Fis_futureofwork%2F3&utm_medium=P DF&utm_campaign=PDFCoverPages
- [31] C. R. Moraes, P. R. Cunha, and I. Ramos, "Designing digital workplaces for employee engagement: Practical guidelines from a systematic literature review," in *Proceedings of the 55th Hawaii International Conference on System Sciences (HICSS)*, 2022, pp. 6341–6350. doi: 10.24251/hicss.2022.769.
- [32] C. R. Moraes, P. R. Cunha, and I. Ramos, "Understanding barriers, enablers, and best practices for creating effective multigenerational digital workspaces," in *Twenty-ninth Americas Conference on Information Systems (AMCIS2023), Panama*, 2023, pp. 0–10.
- [33] E. Yang, Y. Kim, and S. Hong, "Does working from home work? Experience of working from home and the value of hybrid workplace post-COVID-19," *Journal of Corporate Real Estate*, vol. 25, no. 1, pp. 50–76, Feb. 2023, doi: 10.1108/JCRE-04-2021-0015.
- [34] C. Di Tecco, B. Persechino, and S. Iavicoli, "Psychosocial Risks in the Changing World of Work: Moving from the Risk Assessment Culture to the Management of Opportunities," *Med Lav*, vol. 114, no. 2, p. e2023013, 2023, doi: 10.23749/mdl.v114i2.14362.
- [35] B. S. Bell, K. L. McAlpine, and N. S. Hill, "Leading Virtually," Annual Review of Organizational Psychology and Organizational Behavior, vol. 10, no. 1, pp. 339–362, Jan. 2023, doi: 10.1146/annurev-orgpsych-120920-050115.
- [36] N. Goldthorpe, J. Choudrie, and S. Hero, "To a new normal and beyond with digital collaboration practices: A qualitative study.," in *UK Academy for Information Systems Conference Proceedings.3.*, 2023. [Online]. Available: http://journals.sagepub.com/doi/10.3102/0013189X211069399
- [37] J. D. Lichtenstein *et al.*, "How We Work Now: Preliminary Review of a Pediatric Neuropsychology Hybrid Model in the Era of COVID-19 and Beyond," *Archives of Clinical Neuropsychology*, vol. 37, no. 1, pp. 40–49, Jan. 2022, doi: 10.1093/arclin/acab041.
- [38] A. M. Braccini, "When Weber goes Digital During a Pandemic. Reflections on the Digitalisation of Bureaucratic Public Sector Organisations," in *CEUR Workshop Proceedings, Socio-Technical Perspectives on Information Systems, Reykjavik, Iceland*, 2022, pp. 135–146.
- [39] V. Weerakkody, A. Omar, R. El-Haddadeh, and M. Al-Busaidy, "Digitally-enabled service transformation in the public sector: The lure of institutional pressure and strategic response towards change," *Gov Inf Q*, vol. 33, no. 4, pp. 658–668, Oct. 2016, doi: 10.1016/j.giq.2016.06.006.

- [40] R. Cuel, A. Ravarini, and L. Varriale, "Lo smart working nelle pubbliche amministrazioni: Un'analisi socio-tecnica del fenomeno," *Prospettive in Organizzazione*, pp. 1–12, 2021.
- [41] V. Bartosova and I. Podhorska, "The Importance of Non-Profit Organization in Globalized World: International Comparison of American and European Continent," in *SHS Web of Conferences*, 2021, p. 07008. doi: 10.1051/shsconf/20219207008.
- [42] J. M. Ponzoa, A. Gómez, and J. M. Mas, "EU27 and USA institutions in the digital ecosystem: Proposal for a digital presence measurement index," *J Bus Res*, vol. 154, no. 2023, p. 113354, Jan. 2023, doi: 10.1016/j.jbusres.2022.113354.
- [43] K. Vogelsang, S. Packmohr, and H. Brink, "Challenges of the Digital Transformation Comparing Nonprofit and Industry Organizations," in *Lecture Notes in Information Systems and Organisation*, vol. 46, 2021, pp. 297–312. doi: 10.1007/978-3-030-86790-4_21.
- [44] R. Laurett and J. J. Ferreira, "Strategy in nonprofit organisations: A systematic literature review and agenda for future research," *Voluntas*, vol. 29, no. 5, pp. 881–897, 2018, doi: 10.1007/s11266-017-9933-2.
- [45] L. M. Salamon and S. W. Sokolowski, "Beyond Nonprofits: Re-conceptualizing the Third Sector," *Voluntas*, vol. 27, no. 4, pp. 1515–1545, Aug. 2016, doi: 10.1007/s11266-016-9726-z.
- [46] S. S. Nahrkhalaji, S. Shafiee, M. Shafiee, and L. Hvam, "Challenges of Digital Transformation: The Case of the Non-profit Sector," in 2018 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM), Bangkok, Thailand, 2019. doi: 10.1109/IEEM.2018.8607762.
- [47] R. K. Yin, *Yin, 2018 Case study research design and methods.pdf*, 6th ed. London: SAGE Publications, Inc., 2018. doi: 10.1017/CB09781107415324.004.
- [48] H. Brink, S. Packmohr, and K. Vogelsang, "Fields of Action to Advance the Digital Transformation of NPOs – Development of a Framework," in *Lecture Notes in Business Information Processing*, vol. 398 LNBIP, 2020, pp. 82–97. doi: 10.1007/978-3-030-61140-8_6.
- [49] M. P. Zimmer, A. Baiyere, and H. Salmela, "Digital workplace transformation: Subtraction logic as deinstitutionalising the taken-for-granted," *The Journal of Strategic Information Systems*, vol. 32, no. 1, p. 101757, Mar. 2023, doi: 10.1016/j.jsis.2023.101757.
- [50] M. Gierlich-Joas and M. P. Zimmer, "Digital workplace transformation triggers a shift in the HR function : From resource manager to growth catalyst," in *Thirty-first European Conference on Information Systems (ECIS 2023), Kristiansand, Norway*, 2023.
- [51] M. Cipriano and S. Za, "Which Digital Transformation Strategy for Non-profit Organisations Non-Profit Organisations ?," in *30th European Conference on Information Systems (ECIS)*, Timișoara, Romania, 2022. doi: https://aisel.aisnet.org/ecis2022_rp/153.
- [52] D. J. Kim, M. Salvacion, M. Salehan, and D. W. Kim, "An empirical study of community cohesiveness, community attachment, and their roles in virtual community participation," *European Journal of Information Systems*, vol. 32, no. 3, pp. 573–600, May 2023, doi: 10.1080/0960085X.2021.2018364.
- [53] S. L. Alam and J. Campbell, "Temporal Motivations of Volunteers to Participate in Cultural Crowdsourcing Work," *Information Systems Research*, vol. 28, no. 4, pp. 744–759, Dec. 2017, doi: 10.1287/isre.2017.0719.
- [54] T. Mettler, S. Daurer, M. A. Bächle, and A. Judt, "Do-it-yourself as a means for making assistive technology accessible to elderly people: Evidence from the ICARE project," 2021, doi: 10.1111/isj.12352.
- [55] E. Chiner, M. Gómez-Puerta, and M. C. Cardona-Moltó, "Internet and people with intellectual disability: an approach to caregivers' concerns, prevention strategies and training needs," *Journal of New Approaches in Educational Research*, vol. 6, no. 2, pp. 153–158, Jul. 2017, doi: 10.7821/naer.2017.7.243.
- [56] K. Dhakal, "NVivo," *Journal of the Medical Library Association*, vol. 110, no. 2, pp. 270–272, 2022, doi: 10.5195/jmla.2022.1271.

- [57] D. A. Gioia, K. G. Corley, and A. L. Hamilton, "Seeking Qualitative Rigor in Inductive Research," Organ Res Methods, vol. 16, no. 1, pp. 15–31, Jan. 2013, doi: 10.1177/1094428112452151.
- [58] J. M. Corbin and A. Strauss, "Grounded theory research: Procedures, canons, and evaluative criteria," *Qual Sociol*, vol. 13, no. 1, pp. 3–21, 1990, doi: 10.1007/BF00988593.