

OurStrategy: Employee Voice In Transnational Strategy Development

Dinislam Abdulgalimov
dinislam.abdulgalimov@monash.edu
Monash University
Melbourne, Australia

Reuben Kirkham
reuben.kirkham@monash.edu
Monash University
Melbourne, Australia

James Nicholson
james.nicholson@northumbria.ac.uk
Northumbria University
Newcastle upon Tyne, United Kingdom

Tom Bartindale
tom.bartindale@monash.edu
Monash University
Melbourne, Australia

Patrick Olivier
patrick.olivier@monash.edu
Monash University
Melbourne, Australia

ABSTRACT

The rich detail generated by qualitative research is essential for understanding workplace contexts and processes for organizational development. This can be a highly involved and extensive process, thus limiting the number of people who can normally be allowed to fully participate. This is especially problematic when it comes to workplace collaboration and development, as it means that a large number of voices are not considered and heard. In this paper, we provide and implement a novel semi-automated approach that enables large-scale qualitative research. This was done within the context of developing a new organizational strategy for a large and diverse multi-lingual international development organization. We included over 150 different stakeholders whilst enabling their views to be collected and analyzed in depth. This case study demonstrates how to effectively implement qualitative interview research at scale with an application to the employee voice setting, contributing the tools and means to achieve this.

CCS CONCEPTS

• **Human-centered computing** → **Human computer interaction (HCI); Collaborative and social computing**;

KEYWORDS

Organizational strategy; Employee voice; Workplace; Qualitative research at Scale

ACM Reference Format:

Dinislam Abdulgalimov, Reuben Kirkham, James Nicholson, Tom Bartindale, and Patrick Olivier. 2023. OurStrategy: Employee Voice In Transnational Strategy Development. In *Conference on Human Factors in Computing Systems (CHI '23)*, April 23-28, 2023, Hamburg, Germany. ACM, New York, NY, USA, 17 pages. <https://doi.org/10.1145/3544548.3581487>



This work is licensed under a Creative Commons Attribution International 4.0 License.

CHI '23, April 23-28, 2023, Hamburg, Germany
© 2023 Copyright held by the owner/author(s).
ACM ISBN 978-1-4503-9421-5/23/04.
<https://doi.org/10.1145/3544548.3581487>

1 INTRODUCTION

The collaborative character of organizational decision-making processes has made them of particular and enduring interest to the HCI and CSCW research communities [1, 8, 12]. Yet, these processes are particularly complex in respect of organization-wide decision-making in relation to strategic planning [35, 37]. This complexity has meant there have been very limited academic investigations into the validity of such processes in highly-distributed environments (such as international or highly-dispersed non-governmental organizations), despite the potential opportunities that HCI and CSCW-orientated approaches might offer. This is a really important issue: the particular activities of these organizations are intrinsically shaped by their strategies, which are typically documents that set out a vision and plan for a period of a decade or more. After all, many international development organizations have a profound impact upon the lives and opportunities of people in developing countries [10]. Put simply, these strategies decide *who* these organizations help and *how* they help them.

Presently, involving stakeholders in formulating these strategies is a considerable challenge: these organizations often have tight budgets, and qualitative research into stakeholder views is expensive, and time-consuming [25]. This means either methods with limited depth and two-way dialogue are used - for example, non-interactive surveys - or a large proportion of stakeholder groups are excluded. Yet it is crucially important for this issue to be addressed, not only to improve the quality of the strategy but also to improve the perceptions and confidence in decision-making from stakeholders and employees alike so that the organization can have the best possible impact on those societies which it seeks to support and shape [46]. From this perspective, these consultations can be viewed as both an important part of 'employee voice and decision-making' (as many stakeholders are employees or volunteers) and a means of quality assurance and good governance.

The difficulty is how to bring this about. Previous work in this field often examined the employees' participation in organizational decision-making from the perspective of the bottom-up initiatives that are often associated with the inherited risks of speaking up [11, 18], thus focusing on ensuring the safety and affordability of employee voice - in other words, the emphasis was upon protecting those who were afraid to 'speak out' [48, 52]. Whilst it is theoretically possible to do this [1], this presently comes at the considerable

cost of undermining the perceived validity of employee voice, as well as limiting the medium for discussions (i.e. the form of text within an online discussion forum, which is closer in design to a survey than a real-world qualitative investigation) [21, 62], whereas a strategy needs iteration, trust, and deliberation. This could in principle be overcome by operating at scale, in other words doing this through a qualitative research approach (which traditionally enables employee voice by contributing evidence and issues to the literature, but with a small number of interview participants). After all, there are innumerable qualitative investigations and reports in the academic literature about best practices, and most of these involve sensitive, confidential (in the Chatham House sense [28]) and in-depth discussions with informants (i.e. interviewees) which are the centerpiece of the contributions of these works [25, 32].

This paper contributes towards resolving these issues by designing and examining a novel process for conducting in-depth qualitative investigations *at scale*, which we call *OurStrategy*. Our primary innovation was underpinned by an unplatforming approach [38], which implemented the skillful use of semi-automation within pre-existing organizational infrastructure in order to support, manage and analyze interviews at scale, whilst enabling this to operate successfully with participants and interviewers from a wide range of linguistic and professional backgrounds, nationalities and cultures. We supported the end-to-end process of the development of a large organizational strategy with over 150 participants, thus making a contribution to implementing coordinated actions on the ground. This is a novel take on 'employee democracy' [24] and through undertaking this, we provide important insights into how to implement effective and inclusive qualitative research at scale on the ground. Specifically, we offer a means to simplify the operationalization of qualitative methods in scale, which also has further 'employee voice' related advantages, such as the facilitation of inclusion and safety. This paper thus contributes important insights that span concerns in CSCW (how to support with infrastructure a messy collaborative activity at scale), managing organizational politics, onto how to support and implement novel qualitative research methods within HCI.

2 RELATED WORK

2.1 Organizational Strategy and Development

One area where the organization can benefit from considering a variety of different views and experiences is developing its organizational strategy and vision. It incorporates the process of identifying values and methods of sustaining future operations, especially ones that operate over a large disjoint geographical region [46]. *Organizational strategies* are usually framed with components from the organization's declared vision, and different types of organizations have different priorities in this regard.

For commercial and for-profit organizations, a strategy takes the form of financial targets or market expansion, a business plan, and specific aims to develop products or services [22]. Yet, for non-profit social enterprises and governmental bodies, the overarching vision in the strategy typically addresses the organization's mission and the specific activities it should undertake in pursuit of this [46]. Previous research has identified different paradigms and models for organizational strategies that vary based on an organization's

domain [64], the intended (and communicated) management approach [65] and other contextual factors [22, 46]. In non-profit organizations, value maximization and an organization's survival are not explicitly connected to financial performance but depend upon achieving social objectives as defined by their strategy.

The strategic decisions and aims of both for-profit and non-profit organizations have implications at all levels of the organization. A crucial part of formulating a strategy is to ensure that the strategy adopted is feasible, sustainable, and creates sufficient and appropriate value for the organization's stakeholders. For a non-profit organization, social capital is a significant and influential part of organizational identity, which in turn has a significant bearing on access to funding and the willingness of external agencies, organizations, and communities to collaborate with them [30]. Typically, the engagement of stakeholders through direct involvement includes interviews, workshops, focus groups, and task forces [71]. Yet, these methods are difficult to realize for geographically distributed organizations that work across several global locations and regions. Furthermore, the existence of different departments, the decentralization of offices, and differences in organizational infrastructure (including ICT) introduce additional barriers to collaboration [31].

Recognizing the contextual and organizational limitations as an opportunity rather than an encumbrance implies foregrounding the value of local knowledge and the (local) social capital of the diverse workforce. Whilst different barriers exist for strategy formulation approaches, and their associated forms of stakeholder engagement, they can also constitute an opportunity for a reformulation of approaches towards strategy development that effectively incorporates the voice of all actors (including employees, partners, and other stakeholders).

2.2 Employees Voice and Decision making

Another aspect of organizational context contributing to organizational development is 'employee voice.' This concerns ensuring that employees (and other workplace or organizational stakeholders) can have an effective say within the organizational decision-making process, and has historically attracted the interest of researchers concerning collaboration and participation of employees in decision-making processes within organizations [40, 56]. This is usually explored in the form of employees voicing their concerns and suggestions through formal [34], or informal [4] processes. The concept of employee voice can be considered a broader mechanism for providing employees with the opportunities to identify discontent, signal and modify the power of management (upstream), or allow managers to leverage employee knowledge and expertise through direct or indirect feedback channels within the organization (downstream) [48, 57, 69]. In essence - it embraces the involvement and participation of all parties in the discussion and deliberation process. In this paper, we take on this broader concept of *employee voice* that incorporates two core ideas:

- **Facilitating collaborative workplace community** - a mechanism that aims to allow workplace communities to organize, self-adjust and preserve a positive and productive atmosphere, whilst cooperatively coping with issues as they arise and sharing concerns and suggestions between peers [70].

- **Facilitating employee-management dialogue** - a mechanism that provides employees as individuals or groups with a means of communicating with management, having a saying in decision-making, and engaging in workplace discussion by expressing opinions freely without fear of repercussions [1].

Previous research conducted in this area has shown the dependency of organizational performance and productivity upon employees' approaches towards participating in workplace decision-making. It identifies different direct and indirect voicing patterns obtained from an extensive meta-review [20]. It also addressed the effect of workers' participation on productivity through direct voicing channels and found a largely positive impact on productivity, identifying that worker ownership and participation in decision-making are positively associated with organizational performance [16]. Additionally, it is shown to be most effective when employees participate through direct channels, providing them with a sense of permanence, and regularity.

Voicing concerns and sharing ideas with colleagues can help also create and maintain positive well-being inside and outside the workplace context [36]. More generally, the notion of 'voice' helps contextualize the issues and topics raised through the local and applicable references shared and understood by the (workplace) community as a whole [45]. This specific aspect of voice is especially prominent within Information Communication Technologies and Development (ICTD) research, which focuses upon the representation of the communities in locale-specific decisions and democratizing the communication within the communities, or between them and local authorities/external institutions [49, 50].

By contrast, (employee) silence has been shown to cause 'high levels of stress, dissatisfaction, and disengagement', which affects a person's productivity, and organizational performance [48]. Researchers emphasize the importance of establishing voicing channels that facilitate sharing between peers (horizontally within the organization) and allow employees to raise issues or suggestions to management. From a different perspective, previous research has highlighted the importance of support and development of trust from the management side (vertically within the organization), which helps to promote employee well-being and positively affects their productivity [5], demonstrating an inter-connection between productivity and well-being with the prominent effect of employee voice.

3 MOTIVATION AND METHODOLOGY

3.1 Motivation

The main motivation for this case study was to explore and facilitate the organization's strategy formulation process, whilst also exploring the new approach for enabling employee voice through conducting qualitative research at scale. This is currently done with questionnaires or surveys as a means to achieve scale. Yet these are deficient compared to interviews because they lack interactive dialogue, with the result of producing responses that lack richness and detail, as well as lacking the ability to clarify meaning through discussion [15]. This clarification aspect, along with the ability to leverage the existing connection of employees to reach out to partners to access more nuanced and detailed accounts, is what

determined the employment of in depth qualitative methods (e.g., interviews).

The process was designed to address pre-existing issues by taking into account the voices of unconventional collaborators and partners of the organization, addressing management engagement, and providing and responding to feedback to drive the process forward. We worked with an (large and well-established) international not-for-profit research organization (NGO) - WorldFish - that focuses on creating and advancing research on aquatic food systems into more generalized and scalable solutions. It has more than 600 direct employees, as well as numerous other stakeholders. As a member of a bigger consortium of NGOs, they collaborate with different international institutions and organizations that focus on food security research. It has offices in 20 different African, Asia, and Pacific countries throughout the developing world. The key assumptions for the strategy included concentrating upon valuing and enhancing the role of fish in transforming global food systems and accounting for the knowledge and experiences of people in the field. The whole process was carried out in 3 stages (Plan, Act, Reflect) per the Action Research approach (see subsection 3.4).

The premise of this case study was to formulate a new 2022–2030 organizational strategy for an international highly-distributed and diverse NGO. The process needed to be incrementally designed and developed, providing the ability to leverage the knowledge and experiences of (unconventional) stakeholders and employees, allowing the gathering of insightful information (subsection 3.2) while building upon the organization's existing infrastructure (i.e. adopting an un-platforming approach) using existing communication channels (see: subsection 3.3). At an organizational level, active staff engagement in defining the steps and procedures for the process was desired, involving them in the execution and sense-making stages. At the same time, we accounted for the complexity of the context, acknowledging the variety of country offices and regional environments that they are working in as well as the diversity of partners and collaborators (Table 2). Through the 18-month collaboration with the NGO, the socio-technical process *OurStrategy* was designed and implemented (see Figure 3).

3.2 The Complexity of Conducting Qualitative Research at Scale

Qualitative methods have been used extensively in social science and HCI specifically to gain insights into their motivation and reasons for or against something and better understand the potential for exploration [25, 32, 62]. Importantly, they are also applied by organizations to conduct research investigations with a view towards taking decisions. The challenge is that qualitative methods require a significant amount of skill to apply effectively [58] and can present a challenge even in the stage of preparation and planning [31], especially in regard to large-scale research that involves dozens of participants across a diverse cohort [37, 55]. For example, when conducting an interview, researchers will need to design and validate questions and then conduct the interview without imposing bias [6]: this is easier said than done.

On the other hand, we have considered other common methods (including questionnaires), especially in the context of crowd-sourcing of initiatives [29, 51]. The advantage of these is that they

allow the easier and less time-consuming collection of responses from large cohorts of participants, which eventually can constitute the ability to leverage a bigger pool of diverse respondents to form a more generalized observation of the underlying phenomena. When considering interviews, potential time constraints can limit the amount of data that one researcher or team of researchers can practically collect [62], let alone evaluate. This can limit the generalization of the results across a bigger population (e.g., the whole organization or all offices and teams in the distributed setting).

However, the motivation of choosing the interview as a key activity in this research was that more higher-level and less curated methods like surveys and questionnaires tend to miss the level of insights and root causes due to a lack of follow-up prompts based on the participant responses [32]. When it comes to the key stakeholder or individual with a deeper understanding of a complex or nuanced topic of concern, the more detailed qualitative methods provide additional details and also effectively engage with people who are otherwise unlikely to engage in an umbrella-like activity (which in most cases would be a survey).

Through planning and designing qualitative research and employing these methods, HCI researchers tend to focus on specific themes and issues under consideration to elicit specific feedback about it [54]. Unlike this focused approach, the notion of employee voice considers employee engagement as a more open endeavor that leaves space for more open-ended discussions, similar to how it is done in the social sciences [60, 61]. In this respect, the importance of an interview being a dialogue rather than a one-sided monologue is critical, as it gives the opportunity for genuine understanding and convergence of positions. Some researchers take the view that interviews operate as discussions between the interviewee and interviewer where the interaction itself yields the resulting knowledge [9]. This provides the researchers with the opportunity to collect more insightful data and to ingrain the implicit employee voice through the active involvement of interviewers (employees) in discussions with interviewees (stakeholders). This line of thinking also mirrors some of the deliberations within the HCI community regarding using more rigorous and complex qualitative methods like ethnography and adopting new, more open approaches within them [17, 47]. The point is that depth and interaction are key qualities that can be of benefit in genuinely understanding a given perspective and how it arises, which in turn is crucial for any form of genuine 'voice' of participants.

3.3 Leveraging existing organizational and technological infrastructure

The common problem with introducing an employee voice process (especially a digitally mediated one) is the perceived notion that they are 'yet another thing to do' with no clear value proposition for the employee. This reaction can be observed in previous studies [1, 14, 21], which explored the factors that influence the (non-)use of the enterprise social networks (ESN) in organizations and identified the challenges of introducing and integrating a new tool within a workflow that already exists.

This led us to the path of exploring employees' engagement through the *pre-existing* infrastructure that underpins their everyday work practices, with a view to flattening the learning curve and

not disrupting participants' communication and collaboration patterns. Previous HCI research in health-related contexts has demonstrated how the re-use of existing tools can be beneficial [42]. This work demonstrated the feasibility of conducting collaborative design activities using a familiar digital infrastructure and asynchronous remote communication.

Following these observations, one can assume that appropriation of the existing technological infrastructure can simplify the task for employees, allowing digital technology scoping and facilitating the collaboration [66]. Lambton-Howard et al. developed and conceptualized this further under the banner of 'un-platforming' [38] in which existing "platforms" (e.g. MS Teams, WhatsApp, Facebook, etc.) are considered as materials that can be utilized to design and implement digitally mediated processes that enable coordinated participation. Instead of building novel and 'bespoke' systems for addressing specific issues of coordinated participation, they developed a model of an un-platformed design process that employs the materiality (and availability) of existing and widely used platforms [37].

In this study, we incorporated the notion of appropriating existing technologies [66] and un-platforming the design [38] of a strategy formulation process, using crowd-sourcing [67], as the means to realize employee voice.

3.4 Methodology

Our evaluation follows two approaches. The first was an in-situ examination of the process, through Action Research. The second was an evaluation of the strategy produced using the *OurStrategy* framework, by way of comparison with the pre-existing 'Official Strategy'.

3.4.1 In-Situ Observation and Analysis. The methodology employed is mixed, empirical, and application-focused. It deploys qualitative methods in the form of content analysis, interviews, workshops, and quantitative data collection and analysis (e.g., system logs, access logs, etc.) to support or verify the qualitative findings. The research study was organized iteratively, with cycles of planning-acting-reflecting conducted within it, involving the design of a top-down, structured, and formal employer-led (but employee-driven) consultation process.

This approach is best characterized as a combination of an Action Research (AR) approach, which originated within social sciences [3] and an iterative approach, which is mainly associated with software development [39] (and can be seen as a precursor of agile methods) and corresponds to a digital technology version of Altrichter's and Kemmis's model for AR [2]. Within computer science, it is most apparent with the human-centered sub-disciplines, and within HCI [26] has become a commonly deployed approach [59]. The AR approach illustrates a shift in the relationship between HCI researchers and the beneficiaries of their research. It reframes research as being the collaborative exploration of a research question in the service of making a real-world impact on a real-world problem.

We, therefore, followed the idea of defining the goal of AR in HCI as creating sustainable change through interventions, allowing communities to take full control of interventions, associated processes, and new technologies [26]. The collaborative nature

of AR and its open-ended iterative approach towards knowledge production makes it very suitable for the employee voice context, which aspires to engender both the cooperation and participation of workplace community members, whilst framing employees as the experts on the work environment whose knowledge is untapped.

Compared to the pre-existing organizational strategy, the uniqueness of the *OurStrategy* consultation process was the degree of collaboration and engagement with the organization's employees during the designing and conducting stages. The premise of this process was that the NGO's future direction and areas of time and effort investment and development were influenced by local stakeholders, who then informed and shaped country-level planning and priorities for 2022–2030 (local, region, and country-wide strategies). A participatory action research approach aided by digital technology was undertaken to accomplish this goal in an organization scattered across six different countries (India, Solomon Islands, Bangladesh, Nigeria, Myanmar, and Zambia). We did this by appropriating the existing platforms and software within the organization (Microsoft 365 platform), according to the 'un-platforming' [38] and 'appropriation' [66] approaches. This helped to contribute towards the learning and technology process for shaping future stakeholder engagement and processes within the organization.

The duration and structure of the study were reconfigured during the pilot stage due to the COVID-19 pandemic and internal infrastructure limitations (access and internal security policies). This said, *OurStrategy* could have easily accommodated in-person interviews where participants and interviewees were co-located: it would have simply required an audio recording to be taken and uploaded into the system in the usual way. The reconfigured *OurStrategy* process accommodated these changes and addressed the geographical distribution of participants. A Process Master (PM) was introduced to manage and oversee the execution from NGO's Head Office. This was an extensive process overall, set out in more detail over the following sections.

3.4.2 Comparison of Outcomes. Our second approach was to analyze the findings of the *OurStrategy* process by comparing it with the (pre-existing) Official Strategy. This was done using the Constant Comparative Method [23], with a view towards identifying findings and positions taken in each report by topic area or domain, and then carefully comparing the results. The goal was to enable us to make qualitative findings as to the relative merits of each outcome that was arrived at by each investigation approach, including with respect to what each approach accomplished. Through doing this, we can see the type of findings and evidence gathered under each approach, as well as determining the relative strengths and weaknesses of *OurStrategy* compared to the traditional approach.

4 THE OURSTRATEGY PROCESS

We held initial set of consultations with the management team at the NGO headquarters to understand its existing technological and organizational infrastructure, as well as its pre-existing processes and practices. The outcome of the consultation with management manifested as a design workshop with the employees from the 6 country offices which took place during the week-long event at the organization's headquarters (in South-East Asia).

4.1 Process principles

Through the workshop, we formulated the *OurStrategy* iterative process. (For the purposes of tractability, the detailed description of the participatory activities that led to the *OurStrategy* process design stays outside of this paper's scope; here, we concentrate more on its findings and realization.) The main recommendation was an agile and iterative approach should be followed, a recommendation which we adopted in full. Each iteration consists of four steps (*Design, Conduct, Tag/Make Sense* and *Analyze*) represented in Figure 1. The number of necessary iterations depends upon the contextual factors of the organization (time and resource limitations). In general, the decision as to whether or not to run a further follow-up iteration is determined at the end of the current iteration (i.e. within the Analysis stage). The decision to conduct a further iteration depends upon convergence and contextual factors. It responds to the challenges identified in the foregoing sections, and adheres to the following principles:

Fully contained end-to-end coverage. *OurStrategy* builds upon the premise of full coverage of the consultation and stakeholder engagement from the initiating step to delivering outcomes, based on the previous studies concerning both stakeholder engagement [1, 14, 21, 33] and separately, infrastructure and technology appropriation research [43, 66]. Together with the notion of providing the capability to re-run the process (in the next iteration), the results produced from the previous iteration (or stage) can act as inputs for the following iteration. This has the advantage of lowering the resource and data management requirements, and thus helping to remove cost barriers.

Stakeholder Voice Prioritization. *OurStrategy* was designed to be based on the stakeholders' voices and reflect their views and suggestions. Unlike other similar strategy formulation processes, *OurStrategy* expressly focuses 'upon participants' voices, rather than the variety of other considerations (e.g. politics, external funders) that can drive other strategies. It elevates the views of these stakeholders into being a central concept for the design, analysis, and decision-making. This is achieved by creating a direct and transparent communication channel and connecting the reporting directly to the data source, namely participants' voices.

Flexibility and Technology Agnostic approach. No decisions are made for participants during the design of the *OurStrategy* process around consultation workflow. This means that the exact activities of each stage remain flexible for all stakeholder groups and depend entirely on the design stage of each iteration. The whole process is founded upon the assumption that each organization can adopt it based on its infrastructure. Following the unplatforming principle, [38] we flattened the learning curve for participants by utilizing an existing technological and organizational structure. Furthermore, un-platforming assumes the usage of the existing and well-known for participants' means of communication (MS Teams and MS Office 365 infrastructure in this case study) - thereby providing both accessibility and efficiency from an end-user perspective.

4.2 Process roles and structure

The *OurStrategy* process assumes the following roles for participants involved in it:

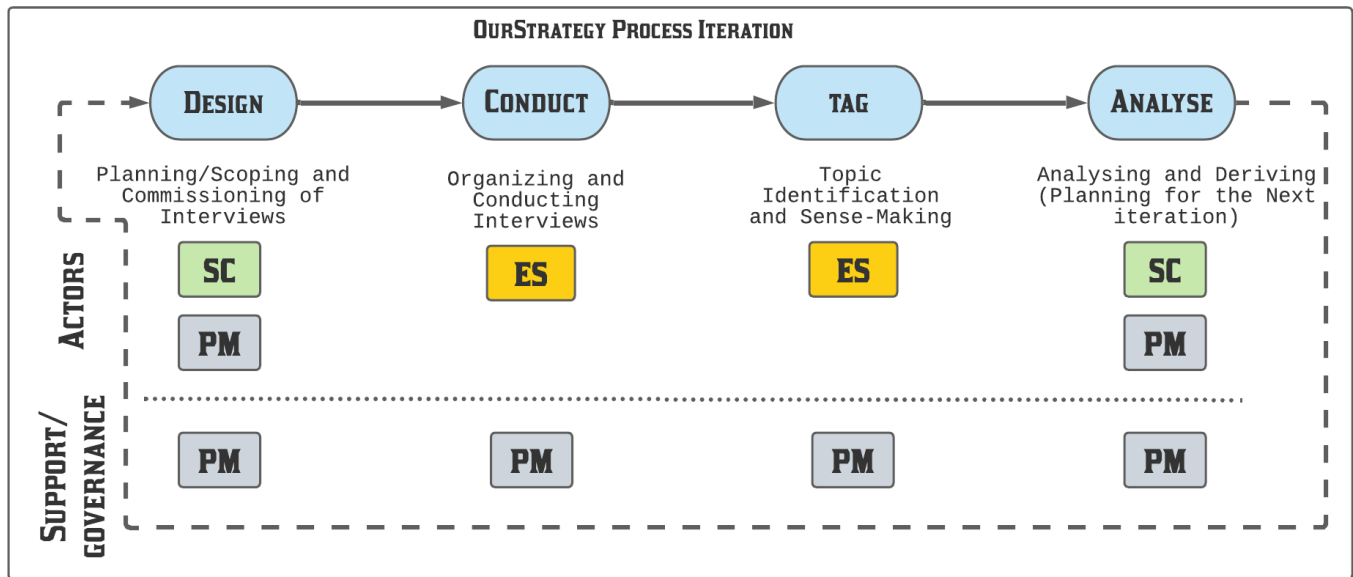


Figure 1: OurStrategy Iteration diagram with stages, relevant roles and their associated activities

- **Steering Committee (SC):** These are the executive team members, country directors, and lead scientists for the design and analysis stages. *For this study included executives and management team members. In total - 5 people.*
- **Process Manager (PM):** This role is particularly vital, as they are the process facilitator whose main duty is to support the process through interaction with the SC members and employees who are conducting the activities, as well as governing, providing necessary material and documentation, and collecting feedback. The PM participates in the design and analysis stages along with the SC members if needed. *This study had one dedicated PM for the whole duration.*
- **Employees (ES):** The employees of an organization (Researchers and Scientists in this case study) acted as interviewers and interviewees. *For this study included employees from 6 country offices, 3 to 4 per country. In total - 19 employees.*
- **Stakeholders (ST):** The stakeholders and partners as interviewees in this study. *For this study included stakeholders from the different areas Table 2. In total - 65 people.*

The *OurStrategy* process is facilitated through the underlying (technological) system that streamlines the process, by semi-automating each stage. It provides an interface for SC, ES, and PM's, giving them information relevant to the stage, capturing their feedback and inputs, whilst automating the tagging of collected data and aggregation for the further execution of the process and data analysis. It also allows for the uploading of necessary documents and recordings through one interface familiar to the users (MS Teams, Telegram, and other any other messaging systems used within the organization). The back-end provides considerable assistance, by (i) logging and storing the collected data, (ii) preparing it for analysis (transcription and topic identification), (iii) extracting the identified tags and topics, and (iv) aggregating the results. The *OurStrategy* process is thus supported by automating and transferring routine,

time-consuming tasks, such as transcription or translation (Figure 2).

The system represents an open framework for organising consultations. This framework translates into a digital tool (as one of the options on par with the manual execution) that is composed of infrastructure-agnostic technological components (stacks) that can be deployed in the cloud environment (if needed) or instantiated through the existing software solution already used in the organization:

- A Backend Server that runs an application that oversees the execution logic of the process and supports the designing, conducting, tagging, and analysis stages.
- A Frontend Digital Agent for PM and ES (if semi-automated) for process configuration, PM interaction with the SC members and employees who are conducting the activities, as well as governing, providing necessary materials, documentation, and collecting feedback.
- An Application Programming Interface (API) to provide integration of the Backend and the front-end interfaces
- External services for storing progress, logging data, transcription, Natural Language Processing (NLP), and analytics.

An overview of the system infrastructure that was developed for this case study is shown in Figure 3.

We adopted a microservice architecture to streamline the development process and provide a functional division between the components, supporting the system's easier configuration, deployment, and scalability in different contexts. This approach had the advantage of allowing us to realize each component digitally or manually, depending on the context and circumstances. For example, we used chatbots for collecting data and scheduling activities, but we could have also had a dedicated PM who will manage these processes (as was done in this case study). The point is that the

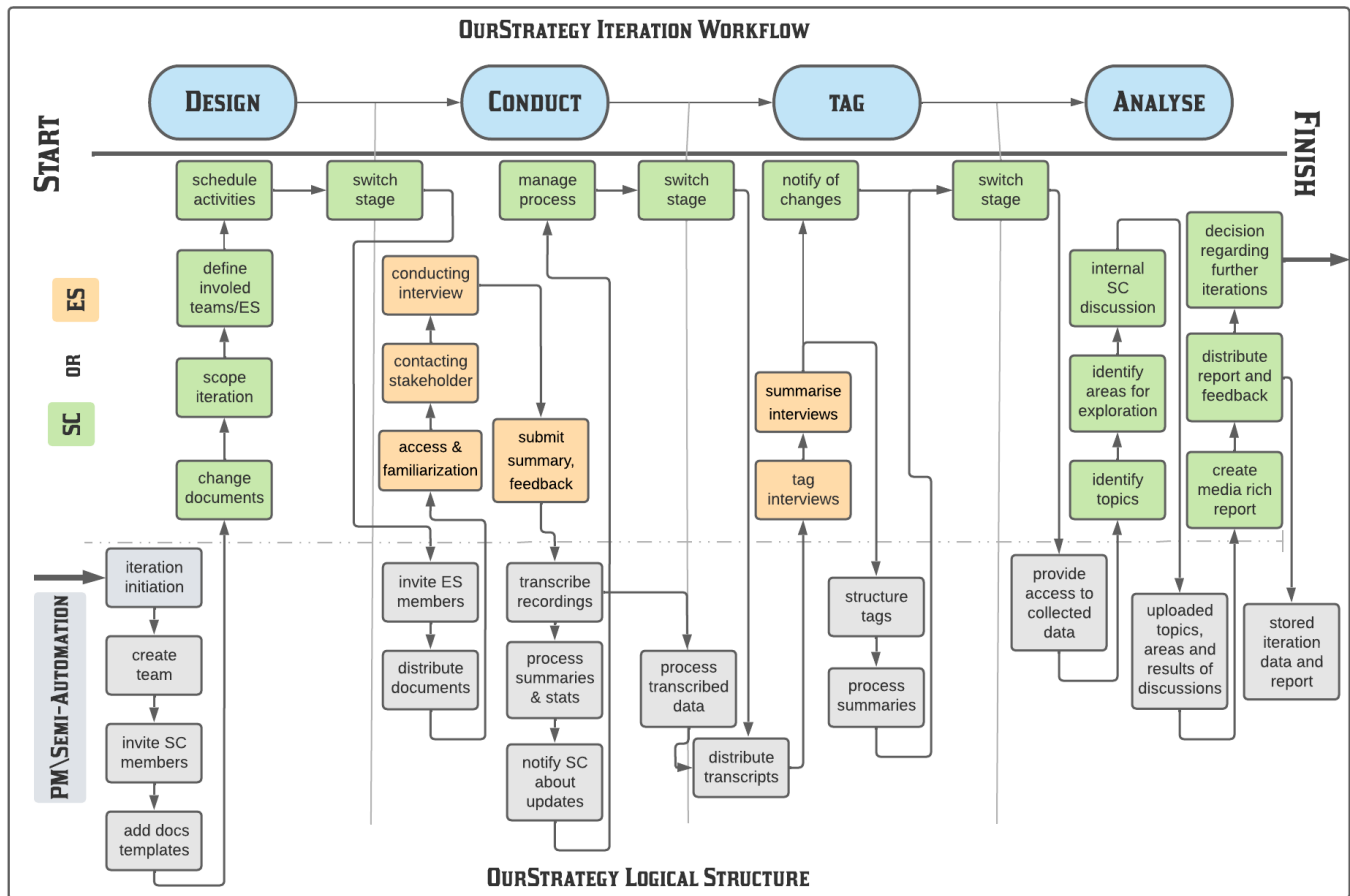


Figure 2: Process workflow: Design, Conduct, Tag and Aggregation/Analysis stages of the one iteration. Green - SC responsibility; Orange - ES responsibility; Gray - System responsibility based on SC or ES actions

OurStrategy framework provides considerable flexibility in respect of implementation in the ground.

4.3 Design stage

4.3.1 *Stage Process.* The PM initiates the stage and then invites SC members. The SC then gathers for planning, topic determination, and problem formulation. This also includes scoping, understanding the resource use, and involvement of people. The result of this stage included (i) the establishment of a group of identified employees and potential stakeholders to run a qualitative activity with; (ii) a determination of the type of methods to employ (interviews, workshops, and so on); (iii) the development of supporting documents, (iv) the preparation of guidelines on how to conduct activities and process collected data. The digital backend of the process (Figure 3) facilitates the creation of supporting documents from templates and the distribution of guidelines and documents to employees through the organization infrastructure (e.g., Microsoft Teams, Slack). See the *Design* stage in Figure 2.

4.3.2 *Outcome during the study.* Structure and procedure-wise, the Design stage stayed intact with the initial design, which involved interview planning, identifying questions, and formulating

the problem. The preliminary selection of stakeholders and the initial scoping for a better understanding of the resource requirements and involvement of people were also important, as were other practical tasks such as creating the necessary documents based on templates. These included preparing the interview schedule, the protocols for ethics, interview debrief and training materials, consent forms, explanatory statements, interview tagging, and interview summary templates. At this stage, the interview questions were designed with feedback from country teams, with six topic areas for capturing perspectives on future research priorities for the NGO, contributing to the overall interview length of up to 30 minutes. The interview schedule transformed from being a formal and scripted endeavor onto a more open and dialogue-like meeting, which offered a more flexible approach for capturing individual voices. Initially, interviews were formalized and strict, representing the usual survey-like ‘direct’ approach, which is an error that was corrected earlier on.

The initial interview schedule included 16 questions, such as Research Experiences (for stakeholders), Future Research Vision, Research Impact Areas, Partnerships and Management and General,

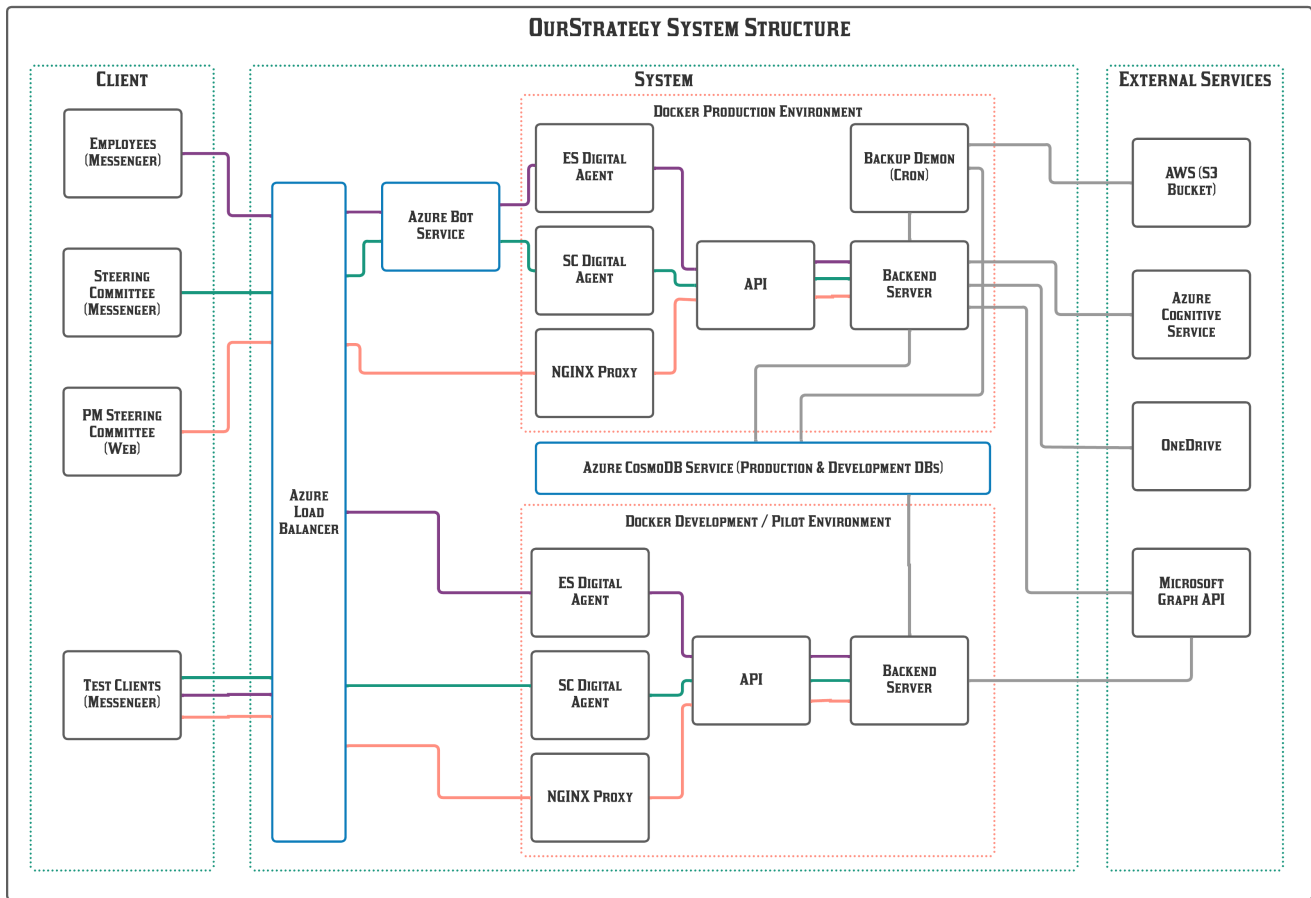


Figure 3: OurStrategy: System architecture example. Interaction/communication flows with the system by color: Purple - Employees' (ESs') usage of the system; Green - Steering Committee members' (SCs') usage of the system; Orange - Process Manager's (Pm's) usage of the system

representing structured and specific questions and probes, sometimes extending complicated topics. For example, one question asks, 'What current and future partnerships are needed to generate positive impact in these areas across scale?' However, due to the design of OurStrategy as an open and flexible process that aimed to grasp nuanced and potentially overlooked themes, SC, PM, and the research team modified the questions to respect this flexibility. The question became: What are the biggest challenges facing your area of work in relation to [NGO's research concern] over the next five to ten years?

The final version of the interviews was stripped down to six questions of approximately five minutes each (naturally, as is usual with qualitative research, some interviews went beyond that time frame). These changes particularly helped adapt to the emerging contextual and infrastructure limitations discussed earlier in the chapter. They released the *Conduct* stage for more open discussion and simplified the task for taggers in the Tag stage.

4.4 Conduct stage

4.4.1 Stage Process. The ES's carry out activities such as conducting interviews and gathering statistics and metadata of each activity. This also involved providing a preliminary summary for each activity (e.g., interview summary and main themes discussed immediately after finishing the interview) for refinement of the process as it proceeds and for validation at the late stages. Thus, an employee not only has *input during the activity* (being able to voice concerns during the discussion with the stakeholder) but also can explicitly highlight the main *outcomes* of the just conducted activity, in their view. The result of this stage includes (i) raw artifacts of the conducted activities (transcripts, audio recordings, produced materials); (ii) feedback from employees regarding the process. The digital back-end of the process (Figure 3) helps to collect and process the data from the distributed cohort of employees. See *Conduct* stage in Figure 2.

4.4.2 Outcome during the study. All activities were conducted remotely due to external constraints (primarily COVID-19) and a

hh:mm	Languages			
	English	Pidgin	Bangla	Burmese
Number of Interviews	56	3	4	2
Total Length	10:37	01:27	02:19	01:00
Mean Length	00:37	00:29	00:35	00:30
Max Length	01:53	00:31	00:50	00:33
Min Length	00:17	00:26	00:23	00:27
Std Dev Length	0.0110	0.0015	0.0069	0.0023

Table 1: Stakeholder Interviews during the Conduct Stage (The interview lengths are in hh:mm format)

general lack of co-location, reflecting the distributed international nature of the NGO in question. The interviews were held through MS Teams (default option) or over the phone (if the internet connection was unstable). Post-interview activity included completing a preliminary summary for each interview and feedback from interviewers to refine the process during the full study. Unlike the initial plan, the communication with the SC team was directly through the PM and not through the chatbot and automated Digital Agent. Recordings were then submitted through the system's backend to automatic transcription services, as in Figure 3.

The emphasis of the interview process was conveyed through the initial training sessions. Country teams were to interview in the form of dialogue rather than in more formalized communication. A semi-structured interview process was successfully followed, based on the emerging design decision to embed employee voice through the conducted activities. From the point of view of the *OurStrategy* process, the employees' opinions and thoughts that are voiced during the interview are of the same importance as those of the stakeholders they were interviewing.

The full study resulted in 466 main points (tags) identified as being crucial from the employee perspectives across the 65 stakeholder interviews with 19 employees who acted as interviewers. The interviews were conducted across the Asia, Pacific, and Africa regions in Nigeria, Zambia, Bangladesh, India, Myanmar, and the Solomon Islands. The interviews were mostly conducted in English, with nine exceptions in Bangla, Burmese, and Pidgin languages Table 1.

4.5 Tag/Sense-making stage

4.5.1 Stage Process. Make Sense/Tag: The ES's engage in the participatory-based analysis stage, accomplishing raw data analysis (identifying main themes and justifying the choice), distributing workload, and gathering refined statistics and data. The main principle is to facilitate cross-validation by distributing collected data to different employees, teams, and offices for tagging. The result of this stage includes aggregated tags with the relevant justifications (namely, 'what?', 'why?' or 'solution/addition'). See the *Tag* stage in Figure 2.

4.5.2 Outcome during the study. The initial design of the *OurStrategy* process assumed a degree of flexibility in the implementation and operationalization of certain stages of strategy consultation that already provide the ability to modify components independently without compromising the intended result. Due to encountered

limitations of the COVID-19 pandemic and infrastructural issues, the *Making Sense/Tag* stage was simplified by the notion of a Flexible and Technology agnostic approach. The SC and the research team utilized existing software and infrastructure capabilities as outlined in the previous section. Therefore, we decided to use an un-platforming approach, asking employees to use Word's existing reviewing facility to identify up to eight main topics (Figure 4).

The reviews were presented in the form of comments with the following structure: (i) the main theme or idea of the reviewed part of the transcript, (ii) an explanation of why they think it is essential to identify, and (iii) the tagger's thoughts on the possible way to address this or to support it, if the main theme is identified as something positive (e.g., '*This is a novel approach in the country and only Cambodia has done this. It will make use of local ingredients instead of relying on imported products which are expensive*'). Based on the conversation, the main themes presented were something that employees identified as somewhat important, new, surprising, or distinctive to a stakeholder. For example:

Main idea: Improving the quality of the rice-field fishery and rice-fish farming has potential in Nigeria and could be an area of interest to an investment organization.

Why: Nigeria has over 3.0 million ha of floodplain areas where rice farming is occurring. In floodplain areas, rice farming is always associated with rice field fishery and offers an opportunity for rice-fish farming aquaculture. Targeting aquaculture for nutrition, through improved access to some essential nutrients through small-indigenous-species (SIS) has been shown to be successful in several countries.

Solution: An enhancement of the rice field fishery has the potential to increase access to SIS. The experience gained through research and development work of the NGO in several countries could be extended to Nigeria to develop 'nutrition sensitive aquaculture'.

Additionally, the transcriptions were verified by the members of the SC team. This verification process helped identify the interviews with lower-quality tags since some participants were specifically unfamiliar with the qualitative analysis and tagging. Overall, the quality of the produced tags was sufficient for the process and adhered to the idea of identification of the main themes only to support the agility and relative speed in the existing context, allowing collection and examination of the ideas and concerns through the lens and expertise of the NGO's employees. The suggested tag structure ('*What?*', '*Why?*', '*How to address?*') thereby facilitated the collection of the immediate employees' reflections on the aggregated stakeholders' feedback.

The interviews that were conducted in Bangla were verified externally after transcription because neither the SC members nor the broader process team could verify the language (apart from the employees who conducted the interviews). A manual transcription and translation service was employed for the discussions in Burmese and Pidgin to ensure accuracy. (The automatic transcription and translation service was either unavailable or available with an unsatisfactory quality of produced results at the time of the study).

DATA PROCESSING PIPELINE

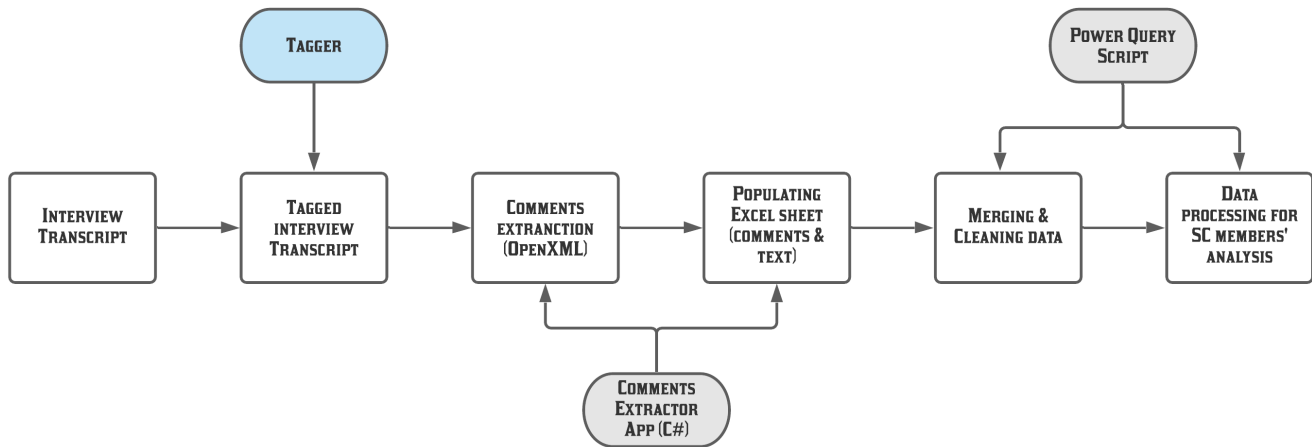


Figure 4: OurStrategy: Data processing pipeline

An average of seven main topics was identified from each interview. The 466 main points identified by taggers went through the collaborative analysis phase, resulting in 1219 topics, later aggregated into 15 theme groups. These topics and themes represented the key perspectives of stakeholders on the future priorities for aquatic foods research and NGO strategy to 2030, as well as the challenges and solutions that needed to be addressed in the stakeholders' views. Based on the identified themes and grouped topics, the SC members conducted a cross-country analysis to identify common themes (at regional or cross-country levels) and those more country-specific (for country-level strategies). This analysis produced a report providing a summary of stakeholder perspectives on future research priorities for NGO across contexts, regions, and countries and reflections on country-level planning. Feedback on the report was obtained from country teams (both general and specific to their country) to validate the reports and to hear their reflections. As part of this process, country teams could share the report with stakeholders participating in the survey to adhere to transparency and the concept of bounded accountability adopted from the previous study. In the full study, 65 interviews were conducted, including stakeholders from the different stakeholder groups outlined in Table 1 from six different countries and summarized in Table 2.

4.6 Analysis stage

4.6.1 Stage Process. Analyze: The SC identifies emerging topics from data, prioritizes and groups areas for more exploration, and involves supplementary outside sources if necessary. This involves discussing findings and producing media-rich documents (reports) for this iteration and deciding on the start of a new iteration or finishing the process. The outcomes of this stage are: (i) a report providing both the findings and discussion points; (ii) potential points to feedback to strategy; (iii) a decision to start new iteration or finish the process. See *Analyze* stage in Figure 2.

4.6.2 Outcome during the study. The last stage was designed to be the most flexible. This stage did not rely heavily on technology but on SC members coming together in order to analyze and discuss emerging topics. The SC members, with the authors' support (for data cleaning and topic grouping), then conducted a higher-level context analysis and aggregation of the tags across all interviews. Eventually, all of the collected topics and themes were identified during the full cycle through inductive analyses by the dedicated SC members and the PM. Consequently, the themes identified were grouped based on different dimensions of their topic, stakeholder group, country, issue type, and so forth. The themes were then cross-checked between the core SC members and against collected interview summaries, which were available to enhance the credibility of the findings.

5 FINDINGS

5.1 Employees input and sense-making

This strategy formulation study had, as a core focus, the *quality* of the sense-making provided by the 'insightfulness' of employees' inputs during their interview conducting and tagging. This process has shown its capacity to facilitate the exploration of contexts from the different angles of diverse stakeholders, to help identify overlooked issues and take into account the knowledge and expertise of the researchers. To produce this account, the personal experiences and expertise of the employees were combined with the information provided by stakeholders.

Interviewee: "There is a very small minuscule of shrimp aquaculture being done by one particular firm in [place]. And that's the end of it they produce hardly 50 to 100 tons per annum, which is negligible. So we need to upscale the basket of aquaculture species in [Country]."

Interviewer: "And also aquatic food systems in terms of system types, for example, see the brackish water

Stakeholder group	Bangladesh	India	Myanmar	Nigeria	Solomon Islands	Zambia	Total
Academia and Research	2	2	1	0	1	1	7
Government	3	2	4	4	2	3	18
International Institutions	2	0	3	3	3	0	11
Donors	1	3	1	1	0	0	6
NGOs	1	1	1	1	2	2	8
Private Sector	2	2	1	1	0	13	19
Fisher Groups	1	2	1	1	0	3	8
Overall	12	12	12	11	8	10	

Table 2: Stakeholder interviews distribution across countries and occupation groups

aquaculture freshwater aquaculture, freshwater capture fisheries Like floodplain fisheries, flat floodplain aquaculture, so, those are aquatic food system types. So, with respect to aquatic food system types, what is your opinion on not focus much..."

The distribution of participants roles in the process (interviewees, taggers, interviewers) makes it possible to build on responses with the expertise and experience of various employees. It also allows for the quick identification of nuanced interrelationships between pre-existing issues and the common challenges different stakeholders face within the country and at the cross-country level.

SC report (Governance): "...Governance and policies to be strengthened for freshwater aquatic ecosystems and the inland fisheries sector to increase conservation, transboundary management and reduce multiple threats that are often unregulated."

SC report (stakeholders views): "...Stakeholders largely discussed socio-economic issues across value-chains and sustainable production."

For example, the issue of property and labor rights in the sea and the inland aquatic food sector was raised by stakeholders from several groups (academia, research, government, and fishery associations) across several different countries (India, Nigeria and the Solomon Islands). The interviews led to this issue being identified by employees (acting as taggers), who offered insights expressed in the form of their tags. In India, the issue was linked to the tags of '*promoting seaweed farming involving women*' and '*inequality in the accessibility to the resources*' between small and big fishers, whilst in Nigeria, it manifested through the provision of '*affordable*' quality feed for aquaculture due to an inability to establish an operational hatchery. Moreover, these multi-faceted perspectives (through the different representations of real-world consequences) demonstrate the value of the *OurStrategy* approach as a distributed validation tool.

The recognition of the importance of issues through the different country offices is backed up by specific employees that simultaneously identified common concerns, demonstrating versatility, and in some cases, a potential solution for each of the cases. The tagging process makes it easier for the organization to capture the common challenges that different stakeholders face and provide opportunities for country teams to contribute. Since most of the tags are detailed and explanatory, sometimes those tags (made by employees) consist of additional information not originally mentioned by

the stakeholder. This is a strength of the process, allowing for additional values and perspectives to be taken into account, which in turn provides a more nuanced and detailed contextual understanding. In most instances, this extra information added explanatory power to the process.

SC report: "While the tagging process allows researchers to incorporate their own perceptions and views regarding the important aspects of the interviews, we should be careful not to obscure the original point of the interviewee."

However, this practice presents a risk of losing or shadowing the original message communicated by the stakeholder. It is thus important to have something in place to manage this potential risk. So, during the full study, the *cross-validation* of tags by other employees, SC members, and post-tagging reflection activities, ensured that more participants examine the same data. In addition, the short keywords provided in respect of the themes created helped identify and focus discussion on the key aspects that need to be explored through the interviews (e.g., challenges, collaborations, research and development, food safety, etc.). In practice, the justification for the selection of these keywords can be followed up to help expedite and streamline the process of analysis.

For this reason, the core team, with members of country teams, employed an additional mechanism of collaborative tagging of their work. This *cross-validation* of the tags was undertaken at the end of the Tag stage and the beginning of the last stage (Analyze stage) and ensured that multiple researchers looked at the same data to identify and validate the important aspects and share their opinions. The short keywords on themes created (together with the justifications of the selected themes) helped to focus, expedite, and streamline this work, ensuring the overall validity of the process.

5.2 Comparing OurStrategy and 'the Official Strategy'

By '*the Official Strategy*', we mean the pre-existing and adopted strategy that was prepared through the usual manager-led and manager-driven procedure. We contrast this with the results of our investigation produced through the **OurStrategy** process. This is done to compare these approaches in order to evaluate the usefulness of the *OurStrategy* from the organization's perspective and to consider if it is a valid alternative approach compared to traditional approaches towards formulating organizational strategies.

5.2.1 Similarities. In both approaches to the strategy formulation process, a theme of the greater potential for aquatic food was discussed extensively. According to the Official Strategy the current undervaluation of aquatic foods resulted in less promotion among the local and regional populations (from both production and consumption perspectives).

Official Strategy: "We will work with local actors to increase awareness on the health and nutrition benefits of aquatic foods, using successful social and behavior change communication approaches from the health sector... show the importance of small fish to low-income households, arguing in nutritional terms small fish are more similar to fruit and vegetables than to poultry [and] cattle."

The data collected through the *OurStrategy* process revealed similar assumptions towards aquatic foods. Aquatic foods, especially smaller species, are not considered an important source of protein and nutrients among consumers (this point was raised in India, Bangladesh, Myanmar and Nigeria).

Interview (India): "Awareness of the importance of eating small fish ... can be demonstrated by using some video clip or some social media by using some good video clip ... Our senior most people are not aware of the importance of this eating of the small indigenous pieces, I think such type of activities can also be introduced by WorldFish in coming years, I think so."

Both strategy approaches (formal and *OurStrategy*) raised the necessity of additional work towards achieving higher affordability and acceptance of aquatic food through technological innovations, infrastructure optimization and educational initiatives. Similarly, both approaches revealed the great socio-economic value of aquaculture and corresponding services for local communities and whole regions.

Overall, in both the Official Strategy and *OurStrategy*, certain challenging points about aquaculture were raised, including infrastructure development, production sustainability, competition for resources for aquatic food with other types of agriculture and the resulting resource shortage.

5.2.2 Localization of issues. Unlike the official strategy process that, due to its overarching nature, covers the broader global focus and vision of the organization in general terms, the *OurStrategy* process helped to distill these broad and common issues from the more specific and local challenges that different country offices identified during their process cycles. Our approach helped to produce more nuanced and country-specific ideas related to the broader strategy. For instance, the Official Strategy talks about climate change through a set of enabling directions for action, including one that states the organisation will 'enable sustainable production of diverse aquatic foods', covering the general aim of recognition of the necessity of identification of innovative solutions for diversification of aquatic foods sustainably.

Official Strategy: "Research will identify innovative solutions to sustainably harvest and produce diverse aquatic foods from capture fisheries and aquaculture,

as well as integration with land-based food production systems."

In contrast, *OurStrategy* covers these enabling factors and then goes into specific detail, with variations offered for the specific regions and countries, highlighting the importance of conservation of freshwater aquatic ecosystems and inland fisheries and the current negligence surrounding this aspect (Bangladesh: research and academic, fish association stakeholders).

Interview (Bangladesh): "... our ponds or aquatic resources, mainly depend on the rainwater only... You might know that though it rains for seven months, for the remaining five months, there will be no rain at all from October to February no rain at all here. ... Some rivers are there. 450 number rivers are there if this somebody can introduce this canal system or irrigation system. We have seen this in Myanmar. This irrigation system is used for filling our fish ponds in winter. During November-December, the pond will be completely dried. If this canal irrigation system, major irrigation system, and minor irrigation system can be developed in a sustainable manner. So, all our fish ponds can retain this water up to 2 meters or three meters during winter also. Then our production and productivity can be increased. But nobody is addressing this problem.

This raises the question of potential actions that can be taken to face and mitigate these issues. In other words, *OurStrategy* successfully offered further depth.

Another example is the idea indicated in the Official Strategy document, namely the integration with land-based food production systems for more efficient production and collective tackling of issues. By contrast, within the *OurStrategy* process, this particular idea was formulated in a particular manner for our NGO to embrace an integrated research strategy of the systems transformation approach: that is, to focus on integrated, demand-responsive research relevant to the region, country, and local market partners, and conduct research based on the region, country, and landscape-specific context. This (more-detailed) idea is further combined with better management of the full production value chain to enhance traceability, both in production systems and food safety systems (India and Myanmar). Furthermore, *OurStrategy* revealed the *traceability* aspect as being crucial for controlling the quality of the product throughout its movement between the place of production to the site of consumption, which would decrease waste and loss pressure and ensure a better quality of the final products for consumers. This raised the question of what can effectively support governments' interest in implementing traceability, given the potentially increased transparency of the aquatic food systems and revenue they are generating. This important question and line of consideration was overlooked in the Official Strategy.

These connections are not always explicitly recognized in the Official Strategy, and the nuances are not reached in the same way as in *OurStrategy*. One of the stakeholders in Myanmar stated: "A lot of the drivers affecting the aquatic food sector are coming from elsewhere, and that's the starting point. These inputs and outputs need to be addressed". Overall, *OurStrategy* supplied more personalized

and country-specific cases that can either inform the strategy or act as a point of validation to assist in evaluating an organization's existing strategic decisions and vision. The differences lie in the specific details and points that were raised.

Asides from the environmental imperative to improve the sector's efficiency and sustainability, the Official Strategy emphasizes the vitality of the loss and waste reduction in aquatic foods production to address related losses in nutrition, livelihoods and public health while transforming production to be more environmentally friendly. *OurStrategy* reveals the same focus on battling waste and losses through specific projects like establishing location-specific fish harbors that can be a solution for losses in value-chain and production. Stakeholders suggested that they can play an important role in value addition for capture and culture fisheries, while also providing the ability to grade and sort fish for different purposes such as packaging and drying (Bangladesh: fish association). *OurStrategy* can leverage local experiences to shed light on some of the local variations, enhancing the decision-making process within the organization. This is especially the case if it is distributed across a range of locations with different contexts and helps to connect diverse needs and increase strategy robustness.

5.2.3 Different angles. The *OurStrategy* process indicated areas that were not fully reflected in the official strategy, showing some of the issues and concerns that came up through the *OurStrategy* approach. Similarly, the Official Strategy has some internal organizational themes that have not been mentioned throughout the process that we (the research team and management) have conducted. To put this another way, both strategies made different findings, and these were complementary to one another.

One of the areas discussed differently in several countries through the *OurStrategy* process is the topic of capacity development and knowledge sharing, including financial support infrastructure for fisheries and the fishers' financial literacy. Although the general topic of capacity development and knowledge sharing is presented in the Official Strategy, some of the concrete themes discussed in the *OurStrategy* are not reflected. These themes include supporting the private sector through micro-financial organizations (India) and insurance for aquaculture farmers (Nigeria, Bangladesh). The idea is that insurance for aquaculture farmers can be a solution (or at least a temporary mitigation mechanism) to protect against sudden loss and damage induced by extreme weather events like floods, cyclones, or value-chain failures and problems.

Uniquely to the *OurStrategy* findings, the idea of improving financial literacy and establishing supportive mechanisms has identified some potentially effective approaches for implementing the positive reinforcement of producers and workers that make production more sustainable and transparent. In addition to increasing financial literacy, a more sustainable production practices through the support and promotion of fishers' and workers' investments in equipment, environmental infrastructure, and the companies at which they work was discussed (Zambia: research and academia, India: fish association, Myanmar: private sector). Moreover, *OurStrategy* highlighted the link between the invisible problems experienced by organizations (like our NGO), due to their lack of first-hand knowledge about settled social norms, such as illegal fishing and the use of illegal fishing gear, and lack of understanding of the

challenges communities face related to financial institutions. Our stakeholders suggested that, through tackling this kind of issue (as multi-disciplinary projects), external organizations can understand the challenges communities face by obtaining their perspectives. This leads towards offering appropriate assistance to fisheries and workers and would contribute to more bottom-up development concepts.

Interview (Myanmar): "... we don't know much about the social norms that they have and also the major problems of illegal fishing within the communities. And also like their own problems with like financial institutions and microfinance institutions, so we need to understand the actual challenges of the communities. So sometimes, most of the research and most of the development concepts come from top to bottom. So I think we should try to understand more of their own problems and their own understanding. You know, So yeah ...we should think and like a lot of aspects not just on the fishery or not just on governance, we should also consider like the like other disciplines on the social aspect or like other development concepts. For example, when we are trying to understand why they cannot consume their own caught catch of their fish, maybe they are worried about their schools, or maybe they are worried about their payment of other microfinance loans. So, we have to think of the issues and so that we can design the projects and that our programs to help them actually to help them"

This all said, there are organization-specific topics raised in the official strategy that are missing from the *OurStrategy*, and themes that exist in the official strategy that did not seem topical or apparent for the national offices or local stakeholders during the *OurStrategy* process. One such organization-specific topic is the NGO's cultural environment and the organization's development internally ('higher-performance, talent acquisition learning and growth culture').

Other strategic and external topics such as digital transformation, advocacy, and strategic outreach were raised during the *OurStrategy* process, indicating that internal and visionary aspects require more top-level decision-making, including organizational financial sustainability. Even though some of the suggestions regarding reaching out to donors and new research proposals were raised through the interviews with international institutions and donors' stakeholders, this vision was reflected more through the Official Strategy document, than the *OurStrategy* findings.

6 DISCUSSION

In this paper, we have reported on a method for conducting large-scale qualitative research, illustrated through the case study of organizing a strategy consultation for an international NGO. Through our case study, we demonstrated how to conduct these types of qualitative investigations at scale, whilst also successfully ensuring these investigations were given appropriate weight in developing and validating the strategy. This research demonstrates a novel approach for facilitating employee voice through a participatory and inclusive process, which met the tenets of effective employee voice

(including validity and constructiveness of discussion). We achieved this by simplifying the operationalization of qualitative methods at scale, through the careful re-usage of existing organizational infrastructure and systems.

6.1 (Community-Driven) Qualitative Research At Scale

Prior works have explored the possibility of using qualitative research to elicit community voice [49, 50] and obtain the benefits of mixed methods qualitative analysis [17, 32, 62]. This study proceeded was designed to address the challenges associated with a diverse cohort of interviewees [44] and the burden (e.g. financial limitations, the management of large research teams, and information overload) imposed by undertaking large-scale studies [31]. Our findings showed these can be overcome on the ground through the higher level of work distribution and task simplification (see **Figure 3**). We adopted an agile implementation that enabled substituting specific elements of the underlying system with other digital tools or manual labor on-the-fly as needed (which occurred in this case through the introduction of PM instead of originally planned chat-bots and deeper automation).

The inherent flexibility in the implementation and operationalization of individual stages within *OurStrategy*, had the advantage of providing the ability to modify each component in real time without compromising the intended result. In turn this eased both participation and governance. More specifically, it allowed us to overcome the barrier of engaging in a qualitative study and employing interviews or workshops as a primary method [7]. Crucially *OurStrategy's* approach allows for the transfer of responsibilities to participants as discrete and well-defined tasks (e.g., 'tag up to 8 main themes', 'have a 20-30 minutes chat with a stakeholder', 'identify the main keywords from a tag', 'or summarize the interview/tags'...). It also provides the flexibility to configure the modes of participation and the conduct of tasks (with formats including video calls, face-to-face discussions, text messaging, person-to-person, and digital-agent facilitated conversations) as interchangeable techniques. The flexible manner in which *OurStrategy* breaks down qualitative research into manageable and accessible tasks is critical to its success.

Unlike more automated and depersonalized approaches (e.g., surveys or crowd-sourcing of tasks), *OurStrategy* supports empathetic and active engagement [27] between the participant who is conducting qualitative research (e.g., employee) and the respondent (e.g., other employee or stakeholder). This is partially realized by leveraging the existing connection between the organization's partners and external stakeholders, but also by focusing on eliciting employee voice implicitly through engaging employees in the Conduct activity (i.e. the data collection / interviewing phase).

At the same time, *OurStrategy* makes qualitative research more inclusive by relaxing the requirement for specialist skills in qualitative research. It shifts from focusing on conductors not introducing their opinions (biases) onto allowing discussion and the exchange of opinions as the process considers both parties to be participants and sources of knowledge. The reason this is possible is because of the scale of *OurStrategy*, because the risk of bias is distributed (and a wider range of people are included in the process), although

this does not mean that bias is eliminated (or even that organisational politics could in some circumstances have an undue influence on a more centralised organisation compared to the one we were working within). Specifically, we found that this simplification and relaxation of requirements decreases the learning curve for participation and increases the quality of outcomes at all stages. In turn, this raises an important point regarding trade-offs between the flow of the conversation and structure [63] and the ability to discover unconventional knowledge and maintain engagement. We argue that the level of connection between the participants, stemming from the commonality of professional interests provides a degree of openness and trust between the parties, allowing them to share their candid opinions and personal experiences [73]. To put it another way, what *OurStrategy* achieved was *in-depth* qualitative research conducted and delivered by a community, *for* a community, and in so doing, arguably overcame the usual scale and stakeholder validity issues in qualitative research.

6.2 Design Considerations for the Organizational Development Process

Based on our experience, we can also distill the following key design considerations for the organizational development process and context.

A. Using participants to distill and analyze interviews, via 'tagging', was fundamental to community 'voice': This investigation has (unusually) examined employee voice through the lens of organizational development and strategy formulation, rather than the traditional approach of managing the tension between management and employees. It revealed 'unconventional' opinions, nuanced knowledge, and the 'insightfulness' of employees' inputs during their interview tagging. The iterative process offered by *OurStrategy* demonstrated a capacity to facilitate the exploration of contexts from the different angles of diverse stakeholders, to help identify overlooked issues, and take into account the knowledge and expertise of the researchers. Whilst it is true that our 'stakeholders' were not 'employees', the scenario is analogous in that there are very similar power relationships (i.e. the stakeholders are dependent to varying degrees on the organization to support their livelihood), and thus the same intrinsic problems and risks arise.

For most key points and themes tagged by researchers within interviews, additional contextual information known to the 'tagger' justified their importance, rather than the substantive content alone. The result was that the personal experiences and expertise of the researchers were combined with the views of the respondents to create something more. In turn, the distribution of responsibilities made it possible to build on responses with the knowledge and experience of researchers. It also allowed for the quick identification of nuanced interrelationships between issues and the everyday challenges that different stakeholders face in national and transnational contexts. This could then be used to recognize the important issues through specific employees who simultaneously identify common concerns and in some cases, a potential solution for each case. Since most of the tags were detailed and explanatory, sometimes those tags consisted of additional information not originally mentioned by the stakeholder (interviewee). Compared to more

typical employee voice processes [1, 53], this is a strength of the process, allowing for additional values and the provision of *context*.

In most instances, this extra information adds explanatory power to the process. Yet, there is a cautionary note we should add: there could also be a tendency to lose or shadow the original message communicated by the stakeholder, so there is a need to ensure this does not obscure the interviewees' original points. Accordingly, there is a need for a degree of careful analysis, although it is also arguable that the decentralization and scale minimizes this risk, at least compared to traditional qualitative research, where there have been widespread concerns that the results can be unduly shaped by one or two researchers conducting the interviews [13].

B. Utilising existing technology allows for more inclusive participation: An essential element of the design organization development processes is the need to ensure sustainability and continuity. Previous research has conceptualized 'voice' as being a continuous process leading to outcomes [68], and has examined the sustainability of this process through the concept of pathways that allow for the tracking of issues from their emergence to decision and resolution. From this perspective, researchers have, on the one hand, explored how digital tools can support the collection of insights [41] and engagement in large-scale collaborative activities [37] through the utilization of existing tools for collaboration (i.e., un-platforming large-scale engagement using social media platforms). Furthermore, Rainey et al. demonstrated how participatory sense-making could be enhanced and simplified by reducing the required expertise and cost of the qualitative analysis of captured audio data [59].

In this vein, *OurStrategy* stands as an example of how a digitally-supported process can enhance the collective voice of a community, by simplifying both qualitative interviews and the subsequent data analysis. Its flexibility allowed us to switch the implementation (due to contextual and infrastructural limitations) while still providing employees the same level of facilitation and ease of participation. In line with the notion of unplatforming [38], the *OurStrategy* process repurposed an existing technology stack (Microsoft Office Suite and Teams). *OurStrategy* can therefore be realized with the minimum set of utilized services external to the existing organizational infrastructure. We argue that such design can support process sustainability and deeper (e.g., more interviews, more iterations with a different focus, etc.) and faster (i.e., in parallel) exploration of a domain (strategy consultation in this particular case study). It is well arguable that operating *OurStrategy* without using pre-existing tools would have been impossible, as each of the (distributed) small tasks underpinning it would have required training, rather than being something that could just be done there and then using the tools which participant were familiar with.

C. The need for flexibility, instead of rigidity in the operation of the process: The project aimed to examine the potential of such a distributed and employer-led but employee-driven approach to strategy consultation. This is intended to be an alternative to the usual approaches undertaken in the higher echelons of an organization or as the alternative mechanism for validation and 'sanity checking' of a strategy already developed. As this process is not a *fait-acompli*, but intended to be genuinely open to different outcomes, one key ingredient was flexibility. For instance, as the PM responsible for overseeing the process execution stated, "*it's great*

that flexibility [of the process] allows us to adjust and reconfigure everything based on employees feedback and permission issues we are facing at the moment" [PM], thereby improving the quality of the process.

This contrasts with existing processes, which can tend to be strictly timetabled, with the timetable potentially being the driver of the process, as opposed being driven by the needs of the community. The rigidity of existing processes is ostensibly justified by the need to ensure an outcome in a reasonable and deterministic time. Yet, crucially, we demonstrated that *OurStrategy* can collect a substantial corpus of meaningful data in a relatively small amount of time and that *OurStrategy* can be adapted to changes in context. Despite the complexity linked to the start of the global pandemic and resulting delays of the pilot and full iterations, the most labor-intensive stages of Conduct and Tag were done within three months, showing that this flexibility does not come at the expense of a reasonable timeline. In effect, the community engagement and buy-in drives the process, rather than a timeline.

6.3 Process Limitations and Future Work

Whilst *OurStrategy* was successful, there remain some limitations to the *OurStrategy* process that should be considered. Although *OurStrategy*'s flexibility helps to address contextual factors, it can limit the quality of the data if the configuration of the process is not appropriate. Potential mistakes can include having short iteration cycles, including questions that are too closed or narrow, or not accounting for stakeholders with limited availability. Whilst in this case we had experienced researchers involved who were able to prevent these types of mistakes, this might not be something that can be assured in other contexts or deployments.

Another potential limitation is the external focus of the process. Since dialogue with stakeholders is the intended goal, experiences and ideas internal to the organization could be neglected unless they are raised in the interviews and discussed. This was apparent, to some degree, in comparison with the official strategy, which had a clear internal workplace focus, unlike the findings of *OurStrategy*. This issue could potentially be mitigated by conducting an internally focused iteration (i.e., employees interviewing other employees) at the beginning of the process, which is what happened during the Plan stage of the study (outlined in Figure 1). Yet in this scenario, the usual organizational and personal inhibitors to employee voice come into play [11, 18, 19]. This points to the possibility of a comprehensive approach combining internal employee voice procedures [1, 21] and *OurStrategy*. Future work could and should explore whether or not there are important differences between external and internal stakeholders in how the process operated, including at different levels of the organisational hierarchy: after all, the goal of *OurStrategy* is to be more inclusive and understanding this would be an opportunity to further breakdown barriers in participation, including subtle ones which did not arise in our analysis.

There is a bigger picture, namely the opportunities for exploring the redesign of qualitative research methods. In this respect, the validation we conducted does not expressly compare *OurStrategy* with other methods in a more formal fashion. For instance, is the traditional practice of qualitative interviewing up to saturation sufficient

to create rigorous findings, or does OurStrategy simply involve an excess of interviews? A different take on this question would be whether a larger number of interviews conducted by people less skilled would be equally as effective as fewer interviews conducted by expert interviewers who have spent years honing their craft: if this were so, then this would have important implications for interviews in a design context, especially where that expertise might not be available. Whilst the number of interviews can be justified from a legitimacy perspective, it does not necessarily mean that they are providing further or additional knowledge. As observed in [32], there is precious little work on benchmarking qualitative methods (both within and beyond HCI) and thus more formally understanding the different benefits or a range of approaches to interviewing. The key contribution of OurStrategy is that it opens up the possibility of interviewing at scale, however this opens up a whole new agenda and set of possibilities for redesigning qualitative interviews that can be explored in a more fulsome manner in future work.

7 CONCLUSION

In this paper, we explored ways of addressing the conduct of large-scale qualitative research through the case of organization strategy consultation and developing a novel and agile approach (*OurStrategy*) for facilitating the collaborative strategy consultation process. We have shown how designing and implementing a semi-automated process in conjunction with responsibility transfer and a re-designed take on employee voice can support and simplify such an endeavor. We supported the end-to-end process of designing and developing a large organizational strategy with over 150 participants across six countries.

Within this case study, we demonstrated how to conduct these types of qualitative investigations at scale while successfully ensuring these were given appropriate weight in developing the strategy. This research demonstrates a novel approach to employee voice through a participatory process that provides important insights into implementing effective and inclusive qualitative research at scale on the ground. Specifically, the way to simplify the operationalization of qualitative methods in scale, facilitation of inclusion and safety while supporting the validity and constructiveness of discussion and appropriation and re-usage of existing organizational infrastructure.

ACKNOWLEDGMENTS

This work was supported and conducted within WorldFish [72], whose support we gratefully acknowledge. We are equally very grateful to all of our participants who took part in this work and enabled this project to happen.

REFERENCES

- [1] Dinislam Abdulgalimov, Reuben Kirkham, James Nicholson, Vasilis Vlachokyriakos, Pam Briggs, and Patrick Olivier. 2020. Designing for Employee Voice. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (Honolulu HI USA). ACM, 1–13. <https://doi.org/10.1145/3313831.3376284>
- [2] Herbert Altrichter, Stephen Kemmis, Robin McTaggart, and Orrun Zuber-Skerritt. 2002. The concept of action research. 9, 3 (2002), 125–131. <https://doi.org/10.1108/09696470210428840>
- [3] Chris Argyris, Robert Putnam, and DM Smith. 1985. *Action science*. 1985. San Francisco: Jossey-Bass.
- [4] Stephen Bach. 2005. *Managing human resources: personnel management in transition* (4th ed.). Blackwell.
- [5] Nicole Renee Baptiste. 2008. Tightening the link between employee wellbeing at work and performance: A new dimension for HRM. 46, 2 (2008), 284–309. <https://doi.org/10.1108/00251740810854168>
- [6] Gillham Bill. 2005. *Research Interviewing: The Range Of Techniques: A Practical Guide*. McGraw-Hill Education (UK).
- [7] Alan Blackwell, R Jones, N Milic-Frayling, and Kerry Rodden. 2005. Combining Logging with Interviews to Investigate Web Browser Usage in the Workplace. Position paper. In *CHI2005 Workshop*, Vol. 6.
- [8] Claus Bossen and Martin Foss. 2016. The Collaborative work of Hospital Porters: Accountability, Visibility and Configurations of Work. In *Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing* (New York, NY, USA) (CSCW '16). Association for Computing Machinery, 965–979. <https://doi.org/10.1145/2818048.2820002>
- [9] Svend Brinkmann. 2018. *The interview* (5 ed.). SAGE Publications, United States, 576–599.
- [10] L. David Brown and Mark H. Moore. 2001. Accountability, Strategy, and International Nongovernmental Organizations. *Nonprofit and Voluntary Sector Quarterly* 30, 3 (2001), 569–587. <https://doi.org/10.1177/0899764001303012> arXiv:<https://doi.org/10.1177/0899764001303012>
- [11] Ethan R. Burris. 2012. The Risks and Rewards of Speaking Up: Managerial Responses to Employee Voice. 55, 4 (2012), 851–875. <https://doi.org/10.5465/amj.2010.0562>
- [12] John M. Carroll, Mary Beth Rosson, and Jingying Zhou. 2005. Collective efficacy as a measure of community. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (New York, NY, USA) (CHI '05). Association for Computing Machinery, 1–10. <https://doi.org/10.1145/1054972.1054974>
- [13] Ronald J Chenail. 2011. Interviewing the investigator: Strategies for addressing instrumentation and researcher bias concerns in qualitative research. *Qualitative Report* 16, 1 (2011), 255–262.
- [14] Christie Pei-Yee Chin, Nina Evans, and Kim-Kwang Raymond Choo. 2015. Exploring Factors Influencing the Use of Enterprise Social Networks in Multinational Professional Service Firms. 25, 3 (2015), 289–315. <https://doi.org/10.1080/10919392.2015.1058118> Publisher: Taylor & Francis _eprint: <https://doi.org/10.1080/10919392.2015.1058118>
- [15] Frederick G Conrad, Michael F Schober, and Tania Coiner. 2007. Bringing features of human dialogue to web surveys. *Applied Cognitive Psychology: The Official Journal of the Society for Applied Research in Memory and Cognition* 21, 2 (2007), 165–187.
- [16] John L. Cotton, David A. Vollrath, Kirk L. Froggatt, Mark L. Lengnick-Hall, and Kenneth R. Jennings. 1988. Employee Participation: Diverse Forms and Different Outcomes. 13, 1 (1988), 8–22. <https://doi.org/10.5465/amr.1988.4306768>
- [17] Andrew Crabtree, Tom Rodden, Peter Tolmie, and Graham Button. 2009. Ethnography considered harmful. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (New York, NY, USA) (CHI '09). Association for Computing Machinery, 879–888. <https://doi.org/10.1145/1518701.1518835>
- [18] James R. Detert and Ethan R. Burris. 2016. Can your employees really speak freely. 94, 1 (2016), 80–87.
- [19] James R Detert, Ethan R Burris, and David A Harrison. 2010. Debunking four myths about employee silence. 88, 6 (2010), 26–26.
- [20] Chris Doucouliagos. 1995. Worker Participation and Productivity in Labor-Managed and Participatory Capitalist Firms: A Meta-Analysis. 49, 1 (1995), 58–77. <https://doi.org/10.2307/2524912>
- [21] Markus Ellmer and Astrid Reichel. 2020. Mind the channel! An affordance perspective on how digital voice channels encourage or discourage employee voice. n/a (2020). Issue n/a. <https://doi.org/10.1111/1748-8583.12297>
- [22] Nicolai J. Foss. 1997. *Resources, Firms, and Strategies: A Reader in the Resource-based Perspective*. Oxford University Press.
- [23] Barney G Glaser. 1965. The constant comparative method of qualitative analysis. *Social problems* 12, 4 (1965), 436–445.
- [24] Paul J Gollan and Glenn Patmore. 2002. The challenge of employee democracy. (2002).
- [25] Evert Gummesson. 2006. Qualitative research in management: addressing complexity, context and persona. 44, 2 (2006), 167–179. <https://doi.org/10.1108/00251740610650175>
- [26] Gillian R. Hayes. 2011. The relationship of action research to human-computer interaction. 18, 3 (2011), 15:1–15:20. <https://doi.org/10.1145/1993060.1993065>
- [27] James A. Holstein and Jaber F. Gubrium. 1995. *The Active Interview*. SAGE.
- [28] Chatham House. 2022. *Chatham House Rule*. <https://www.chathamhouse.org/about-us/chatham-house-rule>
- [29] Julie Hui, Amos Glenn, Rachel Jue, Elizabeth Gerber, and Steven Dow. 2015. Using Anonymity and Communal Efforts to Improve Quality of Crowdsourced Feedback. 3 (2015), 72–82. <https://ojs.aaai.org/index.php/HCOMP/article/view/13229>
- [30] Clyde Eirikur Hull and Brian H. Lio. 2006. Innovation in non-profit and for-profit organizations: Visionary, strategic, and financial considerations. 6, 1 (2006), 53–65. <https://doi.org/10.1080/14697010500523418> Publisher: Routledge _eprint: <https://doi.org/10.1080/14697010500523418>

- [31] Geoffrey Hunt, Molly Moloney, and Adam Fazio. 2011. Embarking on large-scale qualitative research: reaping the benefits of mixed methods in studying youth, clubs and drugs. 28, 5 (2011), 433–452. <https://doi.org/10.2478/v10199-011-0040-1>
- [32] Euijin Hwang, Reuben Kirkham, Kevin Marshall, Ahmed Kharrufa, and Patrick Olivier. 2022. Sketching dialogue: incorporating sketching in empathetic semi-structured interviews for human-computer interaction research. *Behaviour & Information Technology* 0, 0 (2022), 1–29. <https://doi.org/10.1080/0144929X.2022.2113431> arXiv:<https://doi.org/10.1080/0144929X.2022.2113431>
- [33] Gerald C. Kane. 2017. The evolutionary implications of social media for organizational knowledge management. 27, 1 (2017), 37–46. <https://doi.org/10.1016/j.infoandorg.2017.01.001>
- [34] Brian S. Klaas and Anna-Katherine Ward. 2015. Formal, Justice-oriented voice in the nonunion firm: who speaks up and when? 54, 2 (2015), 321–356.
- [35] Michael Knoll, Pedro Neves, Birgit Schyns, and Bertolt Meyer. 2021. A Multi-Level Approach to Direct and Indirect Relationships between Organizational Voice Climate, Team Manager Openness, Implicit Voice Theories, and Silence. 70, 2 (2021), 606–642. <https://doi.org/10.1111/apps.12242>
- [36] Bora Kwon, Elaine Farndale, and Jong Gyu Park. 2016. Employee voice and work engagement: Macro, meso, and micro-level drivers of convergence? 26, 4 (2016), 327–337. <https://doi.org/10.1016/j.hrmr.2016.04.005>
- [37] Daniel Lambton-Howard, Robert Anderson, Kyle Montague, Andrew Garbett, Shaun Hazeldine, Carlos Alvarez, John A. Sweeney, Patrick Olivier, Ahmed Kharrufa, and Tom Nappey. 2019. WhatFutures: Designing Large-Scale Engagements on WhatsApp. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems* (New York, NY, USA). Association for Computing Machinery, 1–14. <https://doi.org/10.1145/3290605.3300389>
- [38] Daniel Lambton-Howard, Patrick Olivier, Vasilis Vlachokyriakos, Hanna Celina, and Ahmed Kharrufa. 2020. Unplatformed Design: A Model for Appropriating Social Media Technologies for Coordinated Participation. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*. Association for Computing Machinery, 1–13. <https://doi.org/10.1145/3313831.3376179>
- [39] C. Larman and V.R. Basili. 2003. Iterative and incremental developments: a brief history. 36, 6 (2003), 47–56. <https://doi.org/10.1109/MC.2003.1204375>
- [40] Kurt Lewin. 1946. Action research and minority problems. 2, 4 (1946), 34–46.
- [41] Kristen Lovejoy and Gregory D. Saxton. 2012. Information, Community, and Action: How Nonprofit Organizations Use Social Media*. 17, 3 (2012), 337–353. <https://doi.org/10.1111/j.1083-6101.2012.01576.x>
- [42] Haley MacLeod, Ben Jelen, Annu Prabhakar, Lora Oehlberg, Katie Siek, and Kay Connelly. 2016. Asynchronous remote communities (ARC) for researching distributed populations. In *Proceedings of the 10th EAI International Conference on Pervasive Computing Technologies for Healthcare* (Brussels, BEL) (*PervasiveHealth '16*). ICST (Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering), 1–8.
- [43] Haley MacLeod, Ben Jelen, Annu Prabhakar, Lora Oehlberg, Katie A. Siek, and Kay Connelly. 2017. A Guide to Using Asynchronous Remote Communities (ARC) for Researching Distributed Populations. 3, 11 (2017), e4.
- [44] Sara L. Marshall and Alison E. While. 1994. Interviewing respondents who have English as a second language: challenges encountered and suggestions for other researchers. 19, 3 (1994), 566–571. <https://doi.org/10.1111/j.1365-2648.1994.tb01122.x>
- [45] Aparna Moitra, Vishnupriya Das, Gram Vaani, Archana Kumar, and Aaditeshwar Seth. 2016. Design Lessons from Creating a Mobile-based Community Media Platform in Rural India. In *Proceedings of the Eighth International Conference on Information and Communication Technologies and Development* (New York, NY, USA) (*ICTD '16*). Association for Computing Machinery, 1–11. <https://doi.org/10.1145/2909609.2909670>
- [46] Mark H. Moore. 2000. Managing for Value: Organizational Strategy in for-Profit, Nonprofit, and Governmental Organizations. 29, 1 (2000), 183–204. <https://doi.org/10.1177/08997640002915009>
- [47] Ann Morrison, Stephen Viller, and Peta Mitchell. 2010. Ethnography considered useful: situating criticality. In *Proceedings of the 22nd Conference of the Computer-Human Interaction Special Interest Group of Australia on Computer-Human Interaction*. 184–187.
- [48] Elizabeth W. Morrison. 2014. Employee Voice and Silence. 1, 1 (2014), 173–197. <https://doi.org/10.1146/annurev-orgpsych-031413-091328>
- [49] Preeti Mudliar and Jonathan Donner. 2015. Experiencing interactive voice response (IVR) as a participatory medium: The case of CGNet Swara in India. 3, 3 (2015), 366–382. <https://doi.org/10.1177/2050157915571591>
- [50] Preeti Mudliar, Jonathan Donner, and William Thies. 2012. Emergent practices around CGNet Swara, voice forum for citizen journalism in rural India. In *Proceedings of the Fifth International Conference on Information and Communication Technologies and Development* (New York, NY, USA) (*ICTD '12*). Association for Computing Machinery, 159–168. <https://doi.org/10.1145/2160673.2160695>
- [51] Michael Muller, Werner Geyer, Todd Soule, Steven Daniels, and Li-Te Cheng. 2013. Crowdfunding inside the enterprise: employee-initiatives for innovation and collaboration. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (Paris, France) (*CHI '13*). Association for Computing Machinery, 503–512. <https://doi.org/10.1145/2470654.2470727>
- [52] Fiona Myers, Elinor Dickie, and Martin Taulbut. 2018. Employee voice and mental wellbeing: A rapid evidence review. (2018), 16.
- [53] Eva Nechanska, Emma Hughes, and Tony Dundon. 2020. Towards an integration of employee voice and silence. 30, 1 (2020), 100674. <https://doi.org/10.1016/j.hrmr.2018.11.002>
- [54] Antti Oulasvirta and Kasper Hornbæk. 2016. HCI Research as Problem-Solving. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems* (New York, NY, USA) (*CHI '16*). Association for Computing Machinery, 4956–4967. <https://doi.org/10.1145/2858036.2858283>
- [55] Ian Plewis and Paul Mason. 2005. What Works and Why: Combining Quantitative and Qualitative Approaches in Large-scale Evaluations. 8, 3 (2005), 185–194. <https://doi.org/10.1080/13645570500154659> Publisher: Routledge_eprint: <https://doi.org/10.1080/13645570500154659>
- [56] G. V. Portus. 1935. The Historical Role of Trade Unionism. 10, 1 (1935), 16–30. <https://doi.org/10.1111/j.1475-4932.1935.tb02763.x>
- [57] John Purcell and Peter Boxall. 2015. *Strategy and Human Resource Management*. Macmillan Education UK. <http://ebookcentral.proquest.com/lib/monash/detail.action?docID=4763425>
- [58] Silvia E Rabionet. 2011. How I learned to design and conduct semi-structured interviews: An ongoing and continuous journey. 16, 2 (2011), 563.
- [59] Jay Rainey, Kyle Montague, Pamela Briggs, Robert Anderson, Thomas Nappey, and Patrick Olivier. 2019. Gabber: Supporting Voice in Participatory Qualitative Practices. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems* (New York, NY, USA). Association for Computing Machinery, 1–12. <https://doi.org/10.1145/3290605.3300607>
- [60] Jane Ritchie, Jane Lewis, Carol McNaughton Nicholls, Rachel Ormston, et al. 2013. *Qualitative research practice: A guide for social science students and researchers*. sage.
- [61] Kathryn Roulston, Kathleen DeMarrais, and Jamie B Lewis. 2003. Learning to interview in the social sciences. *Qualitative inquiry* 9, 4 (2003), 643–668.
- [62] Jennifer Rowley. 2012. Conducting research interviews. 35, 3 (2012), 260–271. <https://doi.org/10.1108/01409171211210154>
- [63] Herbert J. Rubin and Irene S. Rubin. 2011. *Qualitative Interviewing: The Art of Hearing Data*. SAGE.
- [64] Randall S Schuler. 1987. Personnel and human resource management choices and organizational strategy. 10, 1 (1987), 1.
- [65] Elmer Fly Steensen. 2014. Five types of organizational strategy. 30, 3 (2014), 266–281. <https://doi.org/10.1016/j.scaman.2013.10.003>
- [66] Gunnar Stevens, Volkmar Pipek, and Volker Wulf. 2009. Appropriation Infrastructure: Supporting the Design of Usages. In *End-User Development* (Berlin, Heidelberg) (*Lecture Notes in Computer Science*). Volkmar Pipek, Mary Beth Rosson, Boris de Ruyter, and Volker Wulf (Eds.), Springer, 50–69. https://doi.org/10.1007/978-3-642-00427-8_4
- [67] Daniel Stieger, Kurt Matzler, Sayan Chatterjee, and Florian Ladstaetter-Fussenegger. 2012. Democratizing Strategy: How Crowdsourcing Can Be Used for Strategy Dialogues. 54, 4 (2012), 44–68. <https://doi.org/10.1525/cmr.2012.54.4.44>
- [68] Keith Townsend, Adrian Wilkinson, Tony Dundon, and Paula K. Mowbray. 2020. Tracking employee voice: developing the concept of voice pathways. n/a (2020). Issue n/a. <https://doi.org/10.1111/1744-7941.12271>
- [69] Adrian Wilkinson, Michael Barry, and Elizabeth Morrison. 2020. Toward an integration of research on employee voice. 30, 1 (2020), 100677. <https://doi.org/10.1016/j.hrmr.2018.12.001>
- [70] Adrian Wilkinson, Tony Dundon, Mick Marchington, and Peter Ackers. 2004. Changing patterns of employee voice: Case studies from the UK and Republic of Ireland. 46, 3 (2004), 298–322. [tex.ids= wilkinsonChangingPatternsEmployee2004 publisher: Sage Publications Sage CA: Thousand Oaks, CA.](https://doi.org/10.1145/2160673.2160695)
- [71] Kirsty Williamson and Graeme Johanson. 2017. *Research Methods: Information, Systems, and Contexts*. Chandos Publishing.
- [72] WorldFish. 2020. *World Fish Center | WorldFishCenter*. <https://www.worldfishcenter.org/>
- [73] Peter Wright and John McCarthy. 2010. Experience-Centered Design: Designers, Users, and Communities in Dialogue. 3, 1 (2010), 1–123. <https://doi.org/10.2200/S00229ED1V01Y201003HCI009>