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Collective Intelligence: a checklist for the public sector

October 2020

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Getting started with crowd and institution collaboration

If public institutions are to solve problems more effectively and legitimately, they need to understand how to mobilise and apply collective intelligence, namely how to use new technology to collaborate with the public.

In *Using Collective Intelligence to Solve Public Problems*, we look at key features of the relationship between collaborating publics – the 'crowd' – and institutions, and analyse leading examples of people and projects that have done this well.

Building on our original research, this guide outlines a simple checklist to help institutions interested in making the most of the opportunities in collective intelligence (CI). We recommend that it is used alongside the Collective Intelligence Design (CID) Playbook, which contains complementary design questions and specific resources such as worksheets and prompt cards to help public sector innovators put collective intelligence into practice. The checklist is phrased as a series of questions that every public sector practitioner should answer to make sure they don't miss any key elements of designing a CI initiative. It builds on a portfolio of many other resources for practitioners including The GovLab's Open Policymaking Playbook, which sets out cost-effective mechanisms for using collective

intelligence in policymaking and the CrowdLaw for Congress Playbook, which showcases practical strategies law- and policymakers can use to engage citizens in lawmaking.

Before getting started we recommend that you take some time to internalise the CI design principles. Foregrounding these principles as you go through the checklist will help you and your team to cultivate the mindset that is necessary to make the most of collective intelligence, both for your institution and *"the crowd"*.

Collective intelligence design principles

1. Increase diversity of the people you involve and opinions you listen to.

2. Enable people to contribute views and ideas independently and freely.

3. Integrate different types of data to unlock fresh ideas.

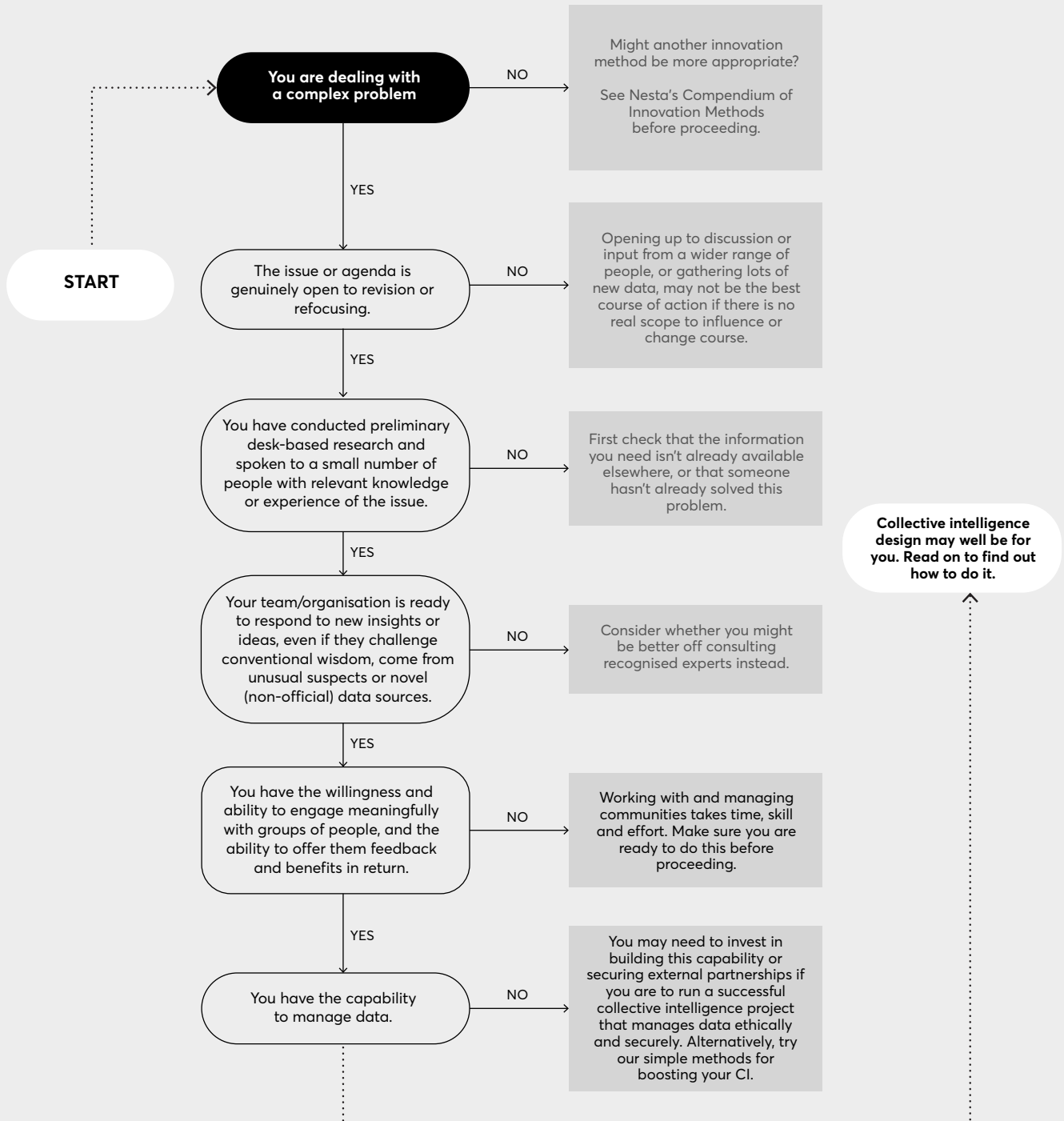4. Be citizen-centred: data empowerment, not data extraction.

This checklist is designed to be a failsafe aide memoire to make your CI project a success. It is based on our interviews with leading practitioners in the field and analysis of more than 30 examples of crowd and institution collaboration. It builds on a number of existing guides, toolkits and resources which are provided at the end of this guide.

Before you begin

There is no need to use collective intelligence for its own sake. Rather, it should be used when you want to engage a broader community and use their contributions to make or influence change.

How do we know if collective intelligence design is right for us?

Use the following flowchart to help you decide if collective intelligence is right for your challenge and if your team or organisation is ready to use it.

START

You are dealing with a complex problem

NO → Might another innovation method be more appropriate?

See Nesta's Compendium of Innovation Methods before proceeding.

YES ↓

The issue or agenda is genuinely open to revision or refocusing.

NO → Opening up to discussion or input from a wider range of people, or gathering lots of new data, may not be the best course of action if there is no real scope to influence or change course.

YES ↓

You have conducted preliminary desk-based research and spoken to a small number of people with relevant knowledge or experience of the issue.

NO → First check that the information you need isn't already available elsewhere, or that someone hasn't already solved this problem.

YES ↓

Your team/organisation is ready to respond to new insights or ideas, even if they challenge conventional wisdom, come from unusual suspects or novel (non-official) data sources.

NO → Consider whether you might be better off consulting recognised experts instead.

YES ↓

You have the willingness and ability to engage meaningfully with groups of people, and the ability to offer them feedback and benefits in return.

NO → Working with and managing communities takes time, skill and effort. Make sure you are ready to do this before proceeding.

YES ↓

You have the capability to manage data.

NO → You may need to invest in building this capability or securing external partnerships if you are to run a successful collective intelligence project that manages data ethically and securely. Alternatively, try our simple methods for boosting your CI.

Collective intelligence design may well be for you. Read on to find out how to do it.

As you set out to design your own project, rather than starting from scratch you should also take the time to survey existing projects that have a similar goal or use similar methods. For this reason, we provide 30 case studies for you to select from to learn how others have succeeded.

The owners of these projects have a unique knowledge of the challenges involved and are often happy to share these learnings with fellow practitioners. In designing the Empurrando Juntas (Pushing Together) software, the Cidade Democrática Institute reached out to the developers of Pol.is, the 'opinion grouping' software that inspired Empurrando Juntas, to explore how they could replicate Pol.is's functionality while also adding new features for better collaboration among users. Pol.is was not only willing to help, but even participated in a workshop with Cidade Democrática and other software developers at Medialab Prado to develop the new software (see Figure 1). While Cidade Democrática's software is still in the early stages of implementation, collaborations like these can set similar projects on a path to success.

^ Figure 1: The Empurrando Juntas
development workshop at Medialab Prado

2016 - Collective Intelligence for Democracy | Medialab-Prado Madrid https://medium.com/cidades-democr%C3%A1ticas/o-novo-aplicativo-do-cidade-democr%C3%A1tica-7a9998f79750

A simple checklist to make your collective intelligence project a success.
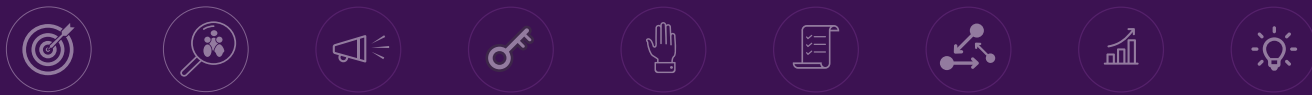
Based on the learnings from our research and from earlier work that Nesta and The GovLab have done on collective intelligence, we focus on nine key questions that you should be able to answer to use collective intelligence effectively.

If you have answered the questions on this checklist then you are more likely to succeed with using collective intelligence. In each section, we have recommended activities and tools from Nesta's CID Playbook to help you find your answers. For readers who are ready for a deeper dive into the collective intelligence design process, we recommend starting out with the Collective Intelligence Design Project Canvas which will take you through a series of more detailed design questions.

1. Have you articulated the project's goals?

2. Have you identified the right participants?

3. Can you reach the participants you identified?

4. Who is the right owner?

5. Have you included incentives for participation?

6. Have you defined the tasks?

7. Have you established the workflow?

8. How will you evaluate inputs?

9. How will you use what the group creates?

1. Have you articulated the project's goals?

The most successful cases are those where the organisers clearly define for participants and for themselves what the project seeks to accomplish. For instance, the US-based platform PulsePoint identified slow emergency response as a key cause of preventable deaths from sudden cardiac arrest. Recognising that there were too few emergency responders on duty to respond to everyone in need in a timely fashion, PulsePoint developed a smartphone application to alert bystanders trained in cardiopulmonary resuscitation (CPR) of the locations of heart attack victims. The platform clearly communicates to participants that the goal is to save lives by applying CPR and a defibrillator. Since launching in 2011, the platform has issued more than 350,000 alerts that have led to more than 100,000 CPR responses. PulsePoint has built a community of more than 2 million people across the United States and Canada, and it works with emergency services agencies in response to this compelling and real need.[1]

It is also helpful to align the goals of the project with the institution's broader initiatives and long-term goals. Civic Bridge, a public programme which coordinates volunteer technologists from Silicon Valley to work on public service delivery projects within departments of the City of San Francisco, prioritises projects that align with the priorities of the relevant department and the Mayor's Office. As collective intelligence is put to use solving what people already agree is an important problem, the initiative has lasted for six years and continues to thrive.

> Refer to: *Challenge Definition Worksheet A1, p. 74, Collective Intelligence Design Playbook*

2. Have you identified the right participants?

The most successful collective intelligence projects involve some opportunity for participants to self-select. By enabling people to work on projects that interest them and that speak to their experience and know-how, participation becomes more robust. For instance, low-level corruption is a widespread problem across India's government. The Janaagraha Centre for Citizenship and Democracy, a non-profit based in Bengaluru, recognised that if the countless people who had paid a bribe (or refused to do so) could safely report these incidents, a database could be built to help to uncover where corruption occurs within India's government. The non-profit created an online platform, ipaidabribe.com, where more than 15 million self-selected users across more than 1,000 cities have reported incidents since 2010 (see Figure 2 on page 10).

Allowing people to self-select does not mean you have to take all comers. Some initiatives tap individuals and groups based on specific skills and knowledge. For example, GoodSAM, a UK-based initiative similar to PulsePoint, imposes strict eligibility requirements. It requires users to verify their CPR training credentials or their profession before they may access alerts. While GoodSAM engages a smaller crowd of medical professionals, it reaches the 'right' people for the purpose.

Still other projects combine self-selection with other selection methods to ensure greater representation. The parliament of the Belgian region of Ostbelgien invites a large random sample of the population to indicate their interest in serving on a citizens' assembly that will develop policy recommendations at a regional level (see Figure 3 on page 10). From those residents who volunteer (self-select), between 25 and 50 are selected so as to ensure that the group is representative of the demographics of the region with regard to age, gender, place of residence and level of education.

In every case, the participants are well matched to what they need to do, and where there is a need to include people with specific attributes, procedures other than self-selection are used.

Refer to: *Stakeholder Map A3, p. 78 and Unique Perspectives Worksheet C1, p. 118, Collective Intelligence Design Playbook*
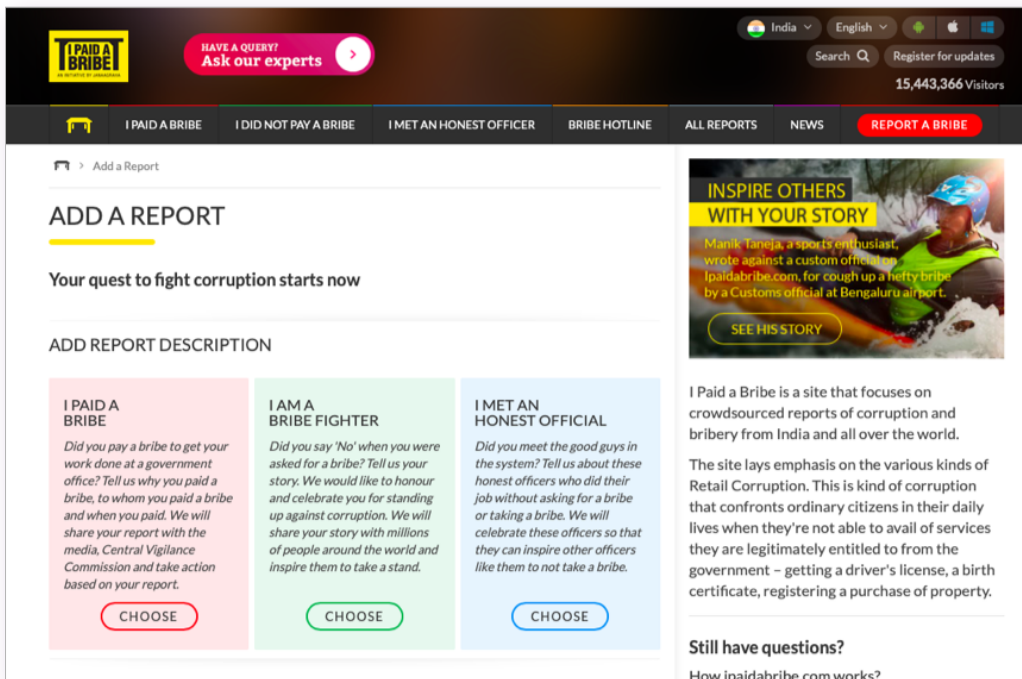
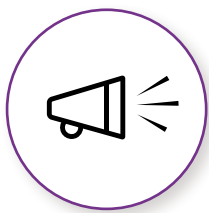*Figure 2: Screenshot depicting reports that people can make through the I Paid a Bribe website*

www.ipaidabribe.com

Figure 3: The first randomly selected 'citizens' council' which will serve in Ostbelgien's parliament

https://www.buergerdialog.be/news/detail/erster-buergerrat-hat-seine-arbeit-aufgenommen

3. Can you reach the participants you identified?

If you build it, they will not necessarily come. Rather, a robust outreach strategy is needed to advertise the opportunity to participants. The Governador Pergunta [Governor Asks] programme deployed two 'voting vans' equipped with laptops, tablets and Internet access, which travelled more than 1,500 kilometres around Rio Grande do Sul to engage the state's offline population in the participation process. This in-person outreach was key to recruiting the 100,000 participants in what would become the largest digital consultation in Brazil's history (see Figure 4).

To crowdsource transnational policy ideas from across Europe, We Europeans used a far-reaching outreach strategy that engaged major daily newspapers and other media organisations and complemented this with a social media effort. The organisers also aligned the initiative's timeline with the European elections and invited political parties and civil society groups to respond to proposals, creating additional publicity opportunities. The organisers report that the initiative reached 100 million Europeans, 1.3 million of whom participated.[2]

A novel example of a project that uses technology to amplify its outreach is PetaBencana, an online platform for flood reporting, used in Indonesia. When someone mentions the word 'banjir' (flood) on Twitter, Facebook or the messaging app Telegram, an automated chatbot responds to the user with a request to provide a flood report through a web browser.

Public institutions in particular also have access to many networks with which they can partner to help reach the required participants. For example, non-governmental organisations or community organisations that collaborate with institutions in the delivery of public services can be valuable partners for reaching participants who may typically be excluded or ill-equipped to participate in traditional consultation processes. Similarly, partnering with stakeholder organisations that institutions routinely engage with, such as professional associations or industry peak bodies, can be ways to reach participants with specific backgrounds or interests.

Refer to: *Engagement Plan Worksheet C3, p. 132, Collective Intelligence Design Playbook*

‹ *Figure 4: Participants access the Governor Asks online voting system inside a voting van*

https://blog.allourideas.org/post/75399372139/the-governor-asks-again

4. Who is the right owner?

The project must have an accountable owner, who may be inside or outside of government or be a coalition of partners. The important thing is that there is someone ready to take responsibility for the design and implementation of the collective intelligence process and, more importantly, for the use of the results.

A collective intelligence project may involve numerous governmental and non-governmental partners. These partners must decide how to divide ownership and governance over the different stages of the project, according to each institution's resources and ability to manage. Based on our research, the most important consideration is that the owner also be in a position to use the collective intelligence or action provided by the public.

Through the year-long DesafíosSP (Challenges) open innovation challenge, the City of San Pedro Garza García in Mexico worked with The GovLab to source ideas from citizens about how to improve the city's traffic congestion problem. City council member Graciela Reyes and Mayor Miguel Treviño championed the project and promised that the city would support implementation of the 10 best solutions. As a result, one successful pilot project is currently being scaled up and replicated,

and five other projects are on their way to being implemented. DesafíosSP worked because the municipal government committed to and followed through on using solutions co-created by citizens. Now San Pedro has legislated the use of the City Challenges method in its work.

Of course, there are also practical considerations that will impact a project's viability. Funding is a key consideration. Support from a third-party organisation may insulate the project from changes in leadership. Safecast, a global environmental monitoring network run by a non-profit of the same name, has raised generous and consistent funding from a cadre of high-profile donors but does not take funding from governments, a strategy that has enabled it to thrive over the last nine years.

The owner's ability to manage the project for its duration is another key consideration. The 2014–2015 Sharing the Roads Safely Citizens' Jury – where the Government of South Australia convened an assembly of 37 citizens, who proposed policies to improve the safety of cyclists – was supported by a strategic engagement team that had supported a similar citizens' jury the previous year (see Figure 5, p. 13).

Figure 5: A cyclist navigates traffic on an Adelaide city street. Between 2003 and 2012 cyclist casualties rose by 35 per cent in the city as cycling participation increased, and so cycling safety was the key issue that the 2014–2015 Citizens' Jury addressed

Photo courtesy of BikeSA

Ownership may also transfer from one partner to another to ensure longevity and success. Through the Abre (Open) project, the Chilean City of Peñalolén worked with the non-profit Fundación Ciudadanía Inteligente (Smart Citizenship) to crowdsource proposals to redesign the city's central park from members of the community, using an online platform. While Fundación Ciudadanía Inteligente developed the online platform, training materials and methodology, it transferred ownership of the website to the City of Peñalolén after the crowdsourcing process

was concluded. Thus, the city now has the digital infrastructure to independently run a similar collaborative design project in the future.

Shared project ownership can also strengthen trust in the process and improve the legitimacy of outcomes. Ownership of vTaiwan, for example, is shared between the government, g0v (Taiwan's largest civic tech community) and individuals affiliated with the Science & Technology Law Institute.

5. Have you included incentives for participation?

Research has shown that crowds of problem-solvers can outperform an organisation's own research and development unit when it knows how and when to use them.[3] There are a number of different types of incentive that can be used.

Offering the incentive of a prize in an open innovation exercise can induce participation and add an element of fun and excitement. Even small prizes, designed to produce small creative shifts that some have called 'micro-innovations', can add up to significant results.[4] Institutions can provide monetary and non-monetary rewards for particularly innovative ideas through prize-backed challenges. These design competitions award funding and connections to the participant

who best solves a defined problem. One popular example is Challenge.gov, which has hosted over a thousand challenges, usually with monetary prizes to engage the public in solving hard problems with federal agencies.

Public institutions in particular can also offer intrinsic incentives, such as an appeal to contribute to the collective good. For example, the City of San Francisco's Civic Bridge programme attracts support from volunteer technologists and designers in the Bay Area by offering opportunities to work on pressing city problems, such as access to affordable housing or better management of 911 calls.

Civic Bridge

By working with private sector technologists and designers, the City of San Francisco taps pro bono talent worth millions

Surrounded by Silicon Valley, San Francisco leaders saw a golden opportunity to improve the lives of residents by bringing private sector talent to bear on pressing City problems. Civic Bridge -- a 16-week program teaming up city staff and private sector experts to design better City services -- enables San Francisco to do just that.

Through Civic Bridge, the city's Office of Civic Engagement (OCI) works with city departments to select problems to tackle, such as improving the public housing application process or better managing non-emergency 911 calls. OCI then works with Bay Area tech companies to recruit a cohort of volunteer technologists and designers and then organises a process that unfolds over four months in which city officials and volunteers work together to collaborate on solutions.

Companies looking for pro bono projects to inspire and reward employees are connected to city departments in need of professional skills they can't source in-house. Companies find it easier to partner with the city through a single entry point and are incentivised to participate through the promise of project opportunities that are well scoped. In turn, city departments benefit from access to highly skilled professionals whose contributions are relevant and reliable given that companies committed to releasing staff for 20 per cent of their weekly working hours during the programme.

The result?

• Since 2015, 250 volunteers have worked on 49 projects.

• Pro bono contributions estimated $3.9 million.

• Winner in the 2019 Engaged Cities Awards organized by the non-profit Cities of Service.

^ *Figure 6: Screenshot from the Sustainable Neighborhood Network website tracking the progress of the Belmar neighbourhood*

https://www.sustainableneighborhoodnetwork.org/sustainable-neighborhoods-lakewood/belmar/belmar-archived-forms

Institutions can also be well placed to offer public recognition as an incentive. Through the Sustainable Neighborhoods Program, neighbourhoods in the City of Lakewood, Colorado, can earn credits for impactful citizen-run sustainability initiatives (see Figure 6); communities that earn 60 credits achieve Sustainable Neighborhood certification. Lakewood also recognises neighbourhoods' accomplishments through public events with city leaders and in publications.

Institutions can also create incentives for participation by removing barriers that would

hinder participation. The World Bank's Listening to Africa project, which conducted phone surveys with residents, offered phone credit to offset any costs to participants. Likewise, for projects where participation is politically sensitive, allowing participants to remain anonymous can be an incentive. The I Paid a Bribe project in India allows participants to report corruption anonymously, reducing the concern that reporting a bribe will lead to retribution.

> Refer to: *Personas C4, p. 134 and Incentives and Retention Tool C5, p. 136, Collective Intelligence Design Playbook*

6. Have you defined the tasks?

To succeed, you need to be able to define what participants need to produce and communicate that to them clearly.

The Carbon-Neutral Helsinki 2035 Action Plan, for instance, assigns responsibility for completing each of the plan's 147 measures to a specific department within the city's government. To build accountability, each department designates specific 'contact persons' who are responsible for reporting on the progress made towards each measure on the Climate Watch website.

You should develop good documentation that explains how each task should be done and by whom. All of Us is a research programme from the National Institutes of Health that provides particularly good instructions through a series of online modules which explain how to participate, using explanatory videos with brief text. (see Figure 7). All content is targeted at a middle school comprehension level or lower. As the All of Us programme crowdsources medical records and biosamples from participants to inform scientific research, clear instructions are crucial to ensure the accuracy of the information collected.
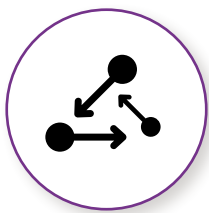
> Refer to: *Gather Data Method Cards B3, p. 92 and Data Flow Tool D4, p. 136, Collective Intelligence Design Playbook*

< *Figure 7: Screenshot from the All of Us participant portal, setting out the initial instructions for how to participate*

https://participant.joinallofus.org/#/register

7. Have you established the workflow?

The most successful projects have a clear definition of the workflow – the steps that must be taken to progress from inception to implementation – that enables the institution to accommodate the crowd's input. This includes a clear description of what the process entails and why.

For example, in order to engage over 250,000 citizens in deliberating on national laws, vTaiwan uses a four-stage online and offline process for moving from issue to legislative enactment while building consensus among diverse stakeholders. The workflow, while complex, is designed to build consensus at each stage of the process. It has been used to craft 26 pieces of enacted legislation, collaboratively between the government and the public, relating to Taiwan's digital economy, including the regulation of Uber, telemedicine and online alcohol sales. The ability of vTaiwan to produce concrete outcomes is the result of the discrete stages of participation. Since the platform's launch in 2015, over 80 per cent of vTaiwan deliberations have led to decisive government action.

You also need to clearly communicate the steps to all involved. PetaBencana (Risk Map) is an online platform run by an Indonesian non-profit where users can submit reports about flooding through four easy steps: 1) confirm the location; 2) input the flood height; 3) submit a (geo-tagged) photo; and 4) briefly describe the situation (see Figure 8). This information is then used by emergency services and humanitarian agencies to inform operational responses. PetaBencana makes it clear that submitting high-quality data is important to reliably inform these responses, and their instructions make it easy to do so. As a result both types of user can use the PetaBencana tool effectively and confidently.

Refer to: *Collective Intelligence Design Canvas p. 42 and Theory of Change Worksheet E4, p. 196, Collective Intelligence Design Playbook*
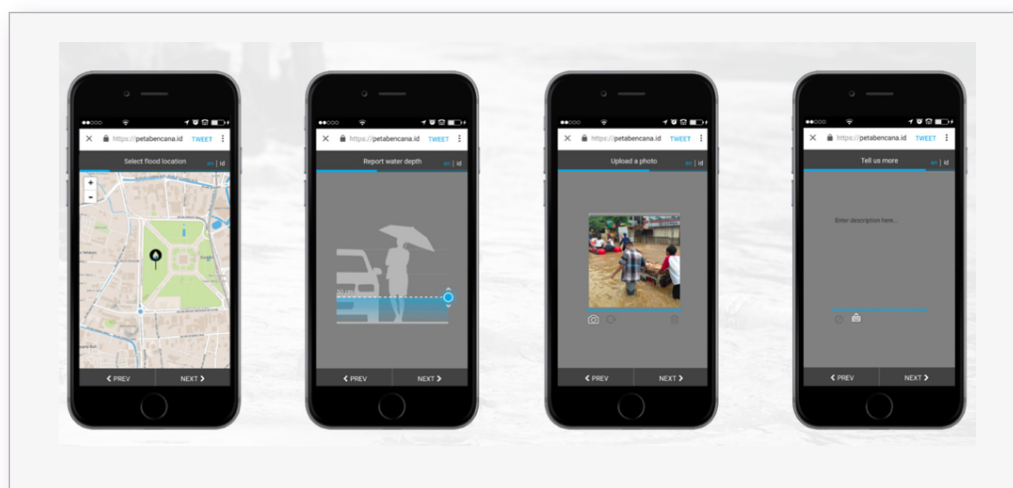
Figure 8: The four steps to creating a report through PetaBencana – confirm location, indicate flood height, submit a photo and provide any additional detail

https://info.petabencana.id/wp-content/uploads/2019/01/About-PetaBencana_Summary.pdf

8. How will you evaluate inputs?

While not all collective intelligence projects are competitions, you need to be able to evaluate inputs to ensure that they are helping you to achieve your goal. The evaluation method depends on the desired outcomes. For instance, through the Innovation ENJINE Challenge, the State of New Jersey sourced ideas to improve state government from its employees through a two-stage competition. While the 20 proposals that advanced to the second stage were those that received the most votes from participating state employees, a panel of five expert judges evaluated and chose the five winning proposals, based on criteria such as importance and feasibility. This approach helped build legitimacy in the first round while ensuring that the winning proposals were both useful and impactful.

Before collecting submissions, you should articulate which inputs are valid and which are not, according to an easily understandable and clearly communicated set of criteria. Technology can help guide this process and make inputs easier to process and categorise later. For instance, Syria Tracker, an online platform that crowdsources on-the-ground information about the ongoing conflict in Syria, accepts structured reports through an online form, by email and by using a Twitter hashtag (see Figure 9, p. 19). Reports that contain identifying information, are duplicates or cannot be verified by an additional source are invalid and, thus, are not published on the Syria Tracker website.

As mentioned earlier, a popular project might gather more inputs than a human team can reasonably process. Consider using new technologies to more efficiently gather and analyse large sets of inputs. The Cidade Democrática Institute created the Empurrando Juntas (Pushing Together) tool (EJ for short), which uses artificial intelligence for just this purpose. The tool's administrator first poses a question. Other participants can either provide an answer or vote on the answers of others. On the back end, algorithms interpret answers and votes to place users into opinion groups based on their activity, which makes this human engagement more efficient and manageable. Likewise, Syria Tracker verifies reports through triangulation, meaning that reports are corroborated by algorithms that pull information from social media, online news media and other sources. While 90 per cent of the verification process is done through this automated data mining process, a group of US-based volunteers also screen reports according to these criteria.

> Refer to: *Solutions Brief B5, p. 104; Data Flow Tool D4, p. 136 and Visualising Citizen Generated Data D6, p. 164 Collective Intelligence Design Playbook*

Figure 9: Screenshot of Syria Tracker's online reporting form.
Syria Tracker, project of Humanitarian Tracker.
https://syriatracker.crowdmap.com/reports/submit

9. How will you use what the group creates?

There is no point winding up the machinery of participation if the resulting output is not something you can easily implement. One common challenge for collective intelligence projects is lack of resources to implement the ideas or solutions developed. This could be due to a lack of funding or staffing. In other cases, it may be that the outputs themselves do not align with the institution's intentions. For example, #RevoluciónCR, an open innovation competition run by the non-profit IDEAS Labs, crowdsourced policy solutions to 13 regulatory challenges in Costa Rica. It turned out that the competition's participants were more interested in developing non-profit and business ideas; only 4 of the 13 most popular submissions were policy proposals. As IDEAS Labs had committed to supporting all the winning proposals, it recognised and gave some support to all the winners but ultimately did not implement these projects, because they were not what the organisation (and the national government) had intended or sought.

One way to communicate your seriousness of purpose is to share stories of how you use participant inputs. These can include actions by the institution (such as policy changes) as well as actions by participants. An example of the latter is found in the Bristol Approach, a project established by the Knowle West Media Centre that has partnered with Bristol City Council, where more than 1,000 volunteers collected data about air quality and damp using portable sensors. One participant began collecting air quality data after she changed her daily cycling route and noticed new breathing problems. After a doctor informed the participant that the pollution she was breathing was equivalent to smoking two cigarettes a day, she designed a new cycling route and saw her breathing improve. On a similar note, both PulsePoint and GoodSAM report data about the number of volunteer first responders, CPR activations and responses. There is quantifiable, hard data about lives saved, demonstrating how the collective intelligence of participants is solving a real problem. See (Figure 10, p. 21).

Hard data does not always tell the whole story though. It can be useful to collect anecdotes and evidence of 'soft' impacts as well to fully understand the nuances that statistics fail to capture. The Finnish Citizens' Initiative is an illustrative example. According to a 2011 amendment to the country's constitution, any citizen can propose legislative changes or new legislation through an online or paper petition. If the petition reaches 50,000 signatures within six months, Finland's parliament must consider implementing the proposal. While the legalisation of same-sex marriage (which came into force in 2017) is the only direct legislative outcome of a Citizens' Initiative proposal, the initiative has sparked much more political debate than would have occurred otherwise. Institutions should expand their idea of impact to measure these less obvious outcomes and communicate them to participants.

> Refer to: *Create Change Method Cards, p. 184, Collective Intelligence Design Playbook, Cover Story A4, p. 80*
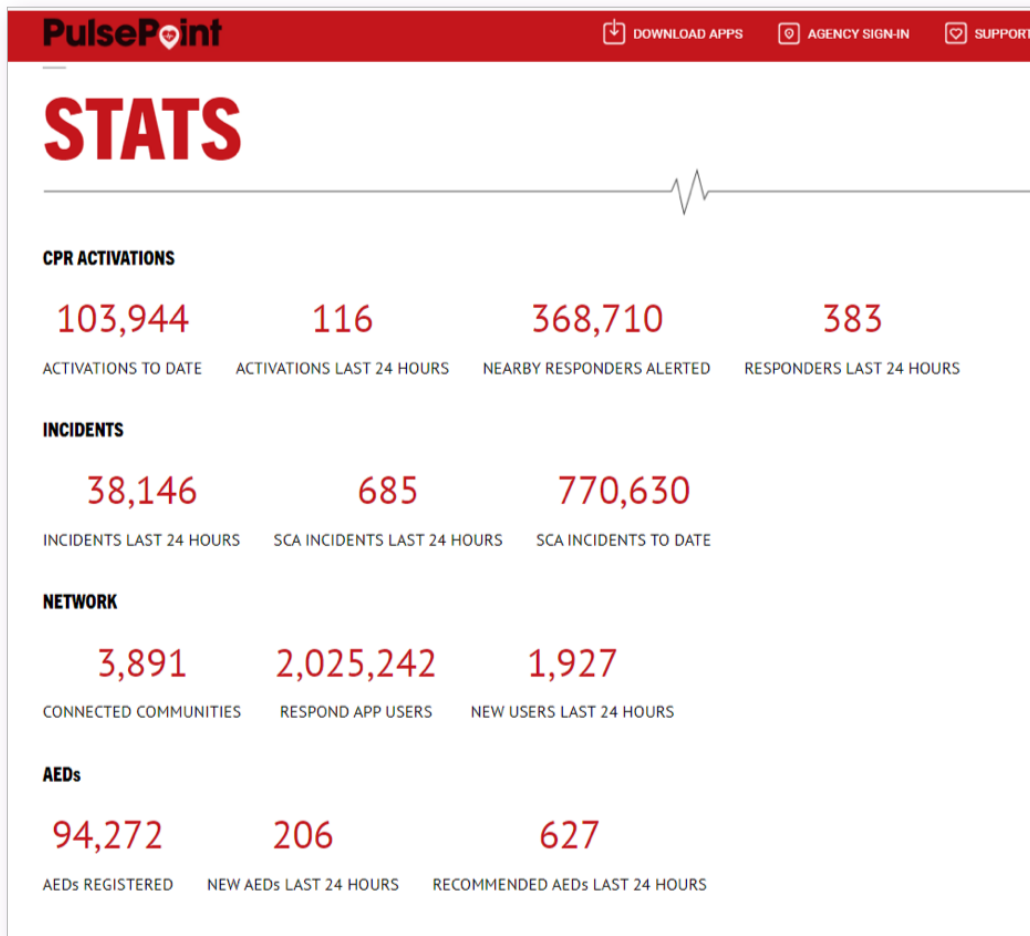
Risks to consider

While collective intelligence approaches afford many benefits for governing, there are also risks to take into consideration.

First, collective intelligence rarely emerges organically, and unforeseen challenges will arise at each stage. An initiative requires careful planning and coordination so that it is carried out efficiently and effectively. There are operational risks from a lack of planning. When there is no time or capacity to engage in that planning or to manage a collaborative process, it may be ill-advised to embark on this path, as a poorly executed and ill-conceived project may be worse than using no collective intelligence at all. If you cannot plan how to run the effort, taking account of the nine questions above, then you should consider alternative approaches to innovation to avoid potential embarrassment.

Second, there are legitimacy concerns. While many crowdsourcing projects allow participants to self-select and even participate anonymously, which can enhance legitimacy compared to working behind closed doors, engaging a crowd can also risk excluding people from participation. While enabling those who are passionate about volunteering, this must be balanced against any considerations about inclusivity. If all those who volunteer are wealthy, educated or male, for example, does that risk reducing the legitimacy of the effort? The act of determining whose contributions are listened to, and whose are excluded, introduces the risk of amplifying systemic biases against marginalised communities.

At the same time, selecting participants (and excluding others) also raises ethical challenges. While frequently turning to the crowd results in more heterogeneous participation by those with a variety of skills, interests and priorities, without adequate planning, it might also result in excessive homogeneity.

Third, ensuring adequate transparency can help to reduce the risks of relying on the work of an unaccountable crowd. Collective intelligence projects need adequate guard rails in place to ensure that the initiative does not unduly benefit one group at the expense of another.

Fourth, some have raised concerns about who benefits from crowdsourced work, which is often done by unpaid volunteers, and what ethical obligations institutions have to use the labour and data participants provide in a beneficial way.[5]

Fifth, there is a tendency to wind up the machinery of engagement without adequate reflection on how to use the input from the crowd. For example, asking a community for its ideas without a clear view as to how those ideas might be taken into account or used can risk alienating people and wasting time. It is not uncommon for a communications or engagement team, rather than the policy shop, to be responsible for organising the involvement of the crowd. But, without advance consideration of how the input generated by the engagement team will be implemented by a policy or other team, there is a risk that the initiative will not be relevant.

Bureaucratic organisations used to working behind closed doors lack individuals trained in the use of collective intelligence. They have long-established practices for working secretly and do not have well-established practices for leveraging collective intelligence. Failing to take account of the different ways of working between traditional bureaucracies and networked groups can result in unanticipated challenges.

Finally, for institutions, a project that fails to achieve its goals can mean a loss of legitimacy and a failure of trust in the eyes of participants. When a project fails to produce outputs, it can result in a damaged reputation and difficulties in raising funding, not to mention the collective effort of those who worked on the project being squandered.

Further resources

Nesta and The GovLab resources

Other resources created by Nesta and The GovLab that can assist problem-solvers working within public institutions include:

New Jersey Office of Innovation/The GovLab, *"Innovation Skills Accelerator: Module 8: Introduction to Collective Intelligence,"* 2019, https://innovation. nj.gov/skills/modules/collective-intelligence.html

Collective Intelligence Design Playbook. Nesta, 2020 https://media.nesta.org.uk/documents/ Nesta_Playbook_001_Web.pdf

Collective Crisis Intelligence. The GovLab, 2020. https://covidcourse.thegovlab.org/index.html

Ballantyne, Perrie. *"Challenge Prizes: A Practice Guide."* Nesta, 2019. https://challenges.org/impact/ reports/nesta-challenges-practice-guide-2019/

Open Policymaking Playbook, The GovLab, 2019. https://www.thegovlab.org/static/files/ publications/openpolicymaking-april29.pdf

CrowdLaw for Congress Playbook. The GovLab, 2019. https://congress.crowd.law/files/crowdlaw_ playbook_2020_web.pdf

Saunders, Tom and Geoff Mulgan, *"Governing with Collective Intelligence."* Nesta. 2017. https:// media.nesta.org.uk/documents/governing_with_ collective_intelligence.pdf

Collective intelligence literature

Collective intelligence is a sprawling topic that spans many fields of study, and there is a wealth of academic literature about the role of collective intelligence in spurring innovation in the literature of social psychology, management and political science. For a comprehensive overview of the literature related to collective intelligence for public problem-solving, please see the literature review that accompanies this report.

For a comprehensive overview of the literature related to collective intelligence for public problem-solving, please see the literature review that accompanies this report at https://www. thegovlab.org/collective-intelligence.html.

Endnotes

1   *"By the Numbers: Stats,"* PulsePoint, accessed February 16, 2020, https://www.pulsepoint.org/stats/

2   Make.org and CIVICO Europa, *WeEuropeans: An Unprecedented Civic Initiative to Reinvent Europe, Final Report*, November 15, 2019.

3   The Governance Lab, *"Better Reykjavik: Municipal Open Innovation,"* https://congress.crowd.law/case-better-reykjavik.html

4   Beth Simone Noveck, Rose Harvey, and Anirudh Dinesh, *"The Open Policymaking Playbook"*, April 2019, https://www.thegovlab.org/static/files/publications/openpolicymaking-april29.pdf

5   Susan Standing and Chris Standing, *"The ethical use of crowdsourcing"*, *Business Ethics*, 27, no. 1, (2017): 78, https://onlinelibrary.wiley.com/doi/epdf/10.1111/beer.12173
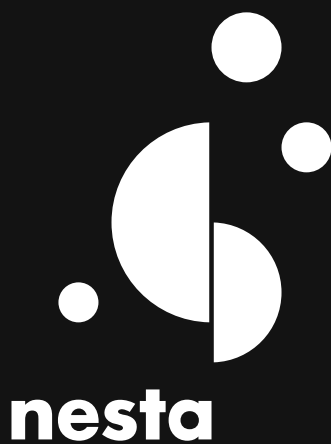
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