ODI

What makes participatory data initiatives successful?

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Participatory Data

ODI Research
ADVANCING TRUST IN DATA

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Contents

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Introduction

For governments, local bodies and private institutions, data-driven insights form the bedrock of decision-making. However, fractures develop when individuals and communities are not involved in the process of data-driven decision-making. From a lack of adequate representation in datasets to facing unwitting consequences as a result of policy decisions, these fractures emerge at different stages, necessitating a more considered and inclusive approach towards data.

Participatory data initiatives are the different ways of empowering people to play an active role in the data ecosystem.[1] This approach recognizes the inherent value of local perspectives, promoting inclusivity and democratisation. It finds application across diverse domains, from democratic processes to community-generated data to grassroots community engagement, highlighting its versatility and broad societal impact. Moreover, organisations can integrate participatory approaches into their methodology through various means, thereby enhancing their responsiveness to local contexts and fostering collaboration with stakeholders.

Just as we participate in different decisions in different ways in our daily lives – such as voting to decide on the governments of our nations, or taking part in citizen juries – there are different forms of participation around or about data.[2] We see opportunities for more participation at each level of the data ecosystem:

- At the data level, people can be involved in the creation, maintenance, use and sharing of data, and can decide how, when and why data should flow.

- At the organisational level, people can be involved in the governance of organisations that collect, maintain and share data.

- At the policy level, people can be involved in determining the 'rules of the game', via methods like public dialogues or citizen juries.

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[1] The ODI (2023), 'Participatory data'.
[2] Patel, R. (2021), 'Participatory data stewardship'.

In the ODI's research on [bottom-up data institutions](), and in Aapti's research [on participation](), we have come across lots of examples of the different ways in which people can be involved in their data ecosystems. These approaches have different understandings of success, and seek to achieve different outcomes. Some of these initiatives have been successful, such as Wikipedia, the largest repository of human knowledge in the world.

This research explores how different types of participatory initiatives define success. It then maps the factors that contribute to achieving that success in different contexts.

'Success factors' refers to the different elements needed for a participatory initiative to achieve its aims. They can be internal, such as the design of the approach, or external, like the political climate. In understanding the different distinct factors enabling success, we seek to provide insight to initiatives employing participatory approaches to reach success themselves.

This research builds on past research into definitions of success and success factors for different participatory initiatives via a literature review. It is complemented by a series of eleven expert interviews that use different types of participatory data to enable a better understanding of the different aspects of each initiative, and the decisions and actions that enable success. Our investigation encompasses diverse methods of participation and spans various areas of work across the global north and south. This approach allows us to capture the nature of participatory approaches to data and recognise the conceptual nuances that may influence their success. By exploring a wide range of organisational contexts, we seek to discern commonalities and patterns that underpin success across different settings. In this research, we explore the following research questions:

- How do those implementing participatory approaches conceptualise and define their success?

- Which success factors impact an initiative adopting participatory approaches?

- Is there a unifying vision of success across different initiatives, stakeholder groups or geographies?

Informed by the answers to these questions, we propose an initial framework for understanding the factors that influence the success of an initiative. For those seeking to implement participatory approaches, this framework provides an overview of the distinct factors that could affect success of their initiative. The framework can also support them to make better decisions about where to direct time, energy and resources to maximise the chances of success. For researchers, it provides the basis of further study, setting out different areas for more in-depth research. Finally, for those supporting or funding participatory initiatives, this framework serves as a guide to how they should scope their evaluation of such initiatives.

This research found that ultimately, participatory data initiatives are united in their conceptualisation of success as achieved through creating impact and changing the lives of the participating community. This desired impact informs the decisions made about different factors underpinning a participatory data initiative, and influences its success. The main success factors to consider when designing, deploying and running a participatory data initiative are:

- The **participants** involved in the initiative.

- The **other stakeholders** involved in the initiative, including the internal team, the champions and the steering committee.

- **Inputs**, including the funding, time and technology available to support a participatory initiative.

- The **design choices** made regarding the participatory methodology and technology used to engage with participants, the legal and governance model selected to structure the initiative, and the incentives available to encourage participants to take part.

- The **external factors** outside of the control of the initiative, such as the political climate, system dynamics, and the commissioners of the initiative.

This research covered 11 interviews with participatory data initiatives around the world, of various shapes and sizes, operating in different contexts alongside a review of academic and grey literature. The findings of this research are detailed across two chapters, delineated by the research questions above. Section 1 of this report focuses on how participatory data initiatives conceptualise and define success. Section 2 dives into the common factors that typically affect the success, or lack thereof, of participatory data initiatives. Section 3 looks at questions around the unified vision of success across different types of participatory initiative and stakeholder groups, and the difference in unifying visions of success across geographic contexts. Building on these, the concluding section, Section 4, proposes an initial framework that can help in the designing and implementing of successful participatory initiatives across varied contexts and settings.

Section 1: How do those implementing participatory initiatives conceptualise their success?

Defining success is a pivotal step preceding the examination of factors that contribute to the success of participatory initiatives. The formulation of a singular definition of success is a complex endeavour, owing to the inherent diversity of perspectives regarding the objectives of participatory initiatives.

Findings from literature review

In most of the papers we reviewed, there appears to be a common assumption that success is measured by the **effective project implementation**, rather than factors such as a project's long-term sustainability.

Common to the various literature analysed is a focus on understanding the components contributing to success, while only defining what success would look like for the organisation rather than the communities involved.

In the context of Citizen Science in Water Management, for instance, the research delves into factors that enhance citizen participation without explicitly defining what constitutes success in such initiatives.[3] Similarly, the World Bank's report on volunteered geographic information highlights the need to understand the factors contributing to successful project implementation, but only provides a definition for each project (defined as: evidence of data creation, continued contribution, government use of the data, and acceptance of crowdsourcing in the organisation).[4] The research on factors contributing to the success of communities of practice (CoPs) discusses the significance of various elements conducive to building such CoPs, but does not offer a definition of what constitutes success for such communities.[5] Most other researchers have implied

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[3] Rutten, M. et al (2017), 'How to get and keep citizens involved in mobile crowd sensing for water management? A review of key success factors and motivational aspects'.

[4] Global Facility for Disaster Reduction and Recovery (2019), 'Identifying Success Factors in Crowdsourced Geographic Information Use in Government'.

[5] Creating Community of Practice (2016), 'Success Factors'.

success to mean successful implementation of projects[6] or realisation of intended outcomes.[7]

However, a growing body of research adopts a wider view on how success is measured or assessed. The conceptualisation of success has evolved from merely executing and finishing tasks to measuring the tangible outcomes and significant impact achieved through implemented interventions.[8] For example, the ACTION project, which supported 16 citizen science pilots, clearly delineates the need to scope project goals during a project design phase, noting the potential different project goals (conceptualisations of success).[9] Similarly, for more participatory organisational forms, like data cooperatives, success looks like solving a common problem with a group of members who share an aligned set of values.[10] For public dialogues, success looks like 'in-depth insight into citizens' views, concerns and aspirations'.[11]

Findings from the interviews

In the interviews, we noticed nuances in the conceptualisation of success that underscore the intricate nature of success in participatory initiatives, where alignment among stakeholders' expectations is essential yet often elusive.

Our analysis led us to categorise the varied understandings of success into three overarching themes:

- **Impact-based conceptualisations** focus on measurable outcomes and tangible changes resulting from participatory efforts.

- **Conceptualisations centred on the creation of new data points** emphasise the generation of valuable insights and knowledge through collaborative processes.

- **Conceptualisations revolving around the empowerment of communities** highlight the transformative effects of participation in enhancing community agency and resilience.

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[6] Thuermer, G. et al (2024), 'When data meets citizens: an investigation of citizen engagement in data-driven innovation programmes'.

[7] Gomer, R. C. Gomer and Simperl, E. (2020), 'Trusts, co-ops, and crowd workers: Could we include crowd data workers as stakeholders in data trust design?'.

[8] Runyenje, C. (2020), 'How we measure success: A participatory Approach to Sustainability'.

[9] Thuermer, G. et al. (2022), 'Participatory Science Toolkit Against Pollution'.

[10] Kapoor, A., Tait, J., & Vaitla, B. (2024), 'How to Build a Data Cooperative: A Practitioner's Handbook'.

[11] Sciencewise (n.d.). 'What is public dialogue?'.

This categorisation speaks to the nuanced nature of success in participatory initiatives, where success metrics extend beyond mere quantitative achievements to encompass qualitative transformations in community dynamics, knowledge acquisition and empowerment. Acknowledging and navigating these diverse interpretations of success is pivotal in designing, implementing and evaluating participatory initiatives effectively.

Impact-based understanding of success

Within the paradigm of impact-based conceptualisations of success, the narratives expressed through our conversations painted a representation of participatory initiatives as catalysts for enduring change – whether through policy reform, replicable models or strategic partnerships.

Dissecting the narratives of success from our conversations, a recurrent theme emerges – the tangible manifestation of policy shifts instigated or prompted by participatory endeavours. Success in this context is not merely an abstract concept. It is seen concretely, for example in the restructuring of policy frameworks. Such impact epitomises success because initiatives have been the catalyst or driver of systemic change. These narratives reflect the belief in substantive influence wielded by participatory initiatives. One interviewee stated: 'People that donate their data want to see real improvements in their day-to-day lives.'

The replication of the participatory process in other settings stands as a testament to the efficacy, scalability and economic viability of participatory initiatives. Success, as envisioned by founders of such initiatives, transcends localised impact, resonating as a blueprint for replication and adaptation across diverse contexts. This propagation of innovative models emphasises success as a catalyst for broader transformative change that traverses boundaries.

Similarly, when participatory initiatives are endorsed by governmental (or similar) entities, which results in opportunities for further collaboration, funding and assistance, this can add another opportunity for impact: 'The goal is to influence policy, and for that policy to improve people's lives.'

Creation of new data points

The creation of new data points using participatory initiatives also emerged as a significant measure of success for those involved. For some individuals, the mere act of ensuring the generation of new data points embodied a commitment to capturing and representing the intricacies of people's realities.

The idea behind such conceptualisations lies in the aspiration to create better, more accurate and detailed datasets that mirror the lived experiences of communities and individuals. One interviewee stated that to them, success is 'shaping the body of knowledge around inclusive participatory approaches and applying that across governments and across institutions'. Success, in this context, emphasises the inherent potential in data-driven narratives that amplify public voices and foster informed decision-making. The intrinsic value of these data points lies in their ability to bridge gaps in understanding, offering insights that inform policies, interventions and resource allocations.

Community empowerment

The dialogue surrounding the empowerment of communities showcased a spectrum of diverse viewpoints, each imbued with nuanced understandings of what empowerment entails. To some, empowerment translates to fostering a sense of ownership within the community, to actively lead and sustain initiatives autonomously. There is also a prevalent sentiment that success hinged on meaningful community involvement and gaining citizen trust through their engagement.

Some interviewees said success is characterised by the dissemination of knowledge and information among participants, facilitating informed engagement with projects and the issues at hand. As one put it: 'Success is the community doing all of this on their own, having the capacity to not just collect the data, but also look at analysis trends to make decisions based on those things.'

This dissemination empowers individuals and also represents a strategic shift in power dynamics, effectively redistributing control and influence to participants.

Success meant the empowerment of communities with the knowledge and tools to make informed decisions, and to produce data-driven demands of those in power. This entails not just data collection but also the capacity to analyse trends and derive actionable insights from this data. Furthermore, success is evidenced by shifts in attitudes, behaviours and practices within communities. A pivotal aspect of success lies in altering perceptions of data by fostering a culture in which data is not just collected but actively utilised to drive positive change. Success, in this context, manifests as increased engagement with data, leading to informed decision-making and strategic resource management.

The essence of success extends beyond individual actions to encompass a broader societal shift towards inclusive participation. One interviewee stated: 'The ultimate goal is that inclusive participation involving communities should be the norm rather than the exception.'

Ultimately, success for participants is anchored in the tangible improvements they witness in their daily lives. Whether through enhanced services, infrastructure developments or increased opportunities, participants measure success by the concrete, positive changes that result from their participatory engagement and collaborative efforts.

Section 2: What different success factors impact a participatory initiative?

While there are different conceptualisations of the success of a participatory initiative, we identified some common factors that impacted their success. These range from internal factors within the control of an initiative, such as the team involved, through to external factors, such as the political climate. Building on the insights from the literature review and interviews, this section explores what these different factors are, and how they impact each other.

Findings from the literature review

In our examination of existing research on the factors contributing to the success of participatory data initiatives, we discerned several recurring drivers:

1. The overarching goal the project aims to accomplish,
2. The allocation of time and financial resources, and
3. The engagement of participants in the project.

Beyond these overarching factors, distinct success factors have been delineated within specific contexts; different approaches to participation have different success factors.

Citizen science projects are a key example of participatory data initiatives. In research on success factors for different Zooniverse projects, there are two main factors for success:[12] the contribution to science, which involves the value of the data created in the project, and how the project is designed from a methodological standpoint; and public engagement, which involves the dissemination of data, and the level of participation and learning in the project.

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[12] Cox, J. et al (2015), 'Defining and Measuring Success in Online Citizen Science: A Case Study of Zooniverse Projects'.

For volunteer-generated data, the World Bank's report offers insights gleaned from the examination of 50 case studies spanning various volunteered geographic information (VGI) projects.[13] The report underscores six fundamental facets crucial to such projects:

- the incentives or drivers behind project initiation;
- project scope and aim;
- engagement of participants, stakeholders, and partnerships;
- allocation of technical and financial resources;
- organisational and technical considerations;
- and challenges encountered.[14]

Research on fostering citizen engagement in water management recognizes prevalent scepticism towards citizen science due to perceived reliability and accuracy issues, and underscores the importance of enhancing data collection methodologies to bolster precision and credibility.[15] It emphasises that addressing factors such as citizen apathy, concerns regarding compensation, and potential community exclusion is vital in cultivating widespread participation and inclusivity. It identifies motivation as a key catalyst in ensuring citizen participation, emphasising the importance of incentivising participation to overcome barriers to engagement.[16]

Further research emphasises three factors essential for cultivating a successful community of practice: identification, leadership and time.[17] Communities thrive on social energy, which hinges on clear identification of the domain, reflecting key issues and tasks to steward. Passion for the domain is vital, driving engagement and cohesion.[18] Building an effective community of practice requires dedicated individuals nurturing the community, as neglect often leads to failure, despite sustained interest. Time constraints pose another challenge that necessitates strategies to optimise time investment to maximise efficiency and engagement. Additional success factors include leveraging local and international expertise, addressing practice details, and curating a balanced mix of activities. There is a need for visible organisational support without micromanagement, as this aids in building a community.[19]

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[13] Global Facility for Disaster Reduction and Recovery (2019), 'Identifying Success Factors in Crowdsourced Geographic Information Use in Government'.

[14] Ibid.

[15] Ibid.

[16] Ibid.

[17] Creating Community of Practice (n.d.) (2016), 'Success Factors'.

[18] Ibid.

[19] Ibid.

For participatory initiatives that involve people contributing to, and having a say in, how an organisation utilises the collective data of the members or participants, such as data cooperatives and data trusts, there is limited assessment of the success factors for data-specific versions of these organisations. However there is wide-ranging literature on the success factors for these organisations in non-data settings.

Co-operatives, which are governed and controlled by members, have been an important instrument for improving social economic development in many countries. There is wide-ranging research on their use, focused on different sectors. For agricultural cooperatives in Tanzania, research conducted via a survey with 324 respondents found there to be 11 key success factors.[20] They are categorised into:

- **commitment** (use of personal skills, members' control and promotion);

- **governance** (measurement system, governance structure, leadership support, and transparency),

- **and strategy** (self-evaluation, objective development, strategy-focused, living the vision of the institution).

A study on farmer cooperatives in China had similar results, but also identified the legal environment, government financial and technical support, and members' understanding and participation, as important success factors.[21]

For cooperatives specific to data, there is less literature. However, given that much of the research into data cooperatives builds on the theory of cooperatives, many of the success factors likely align. In addition, Julian Tait suggests three key factors that data cooperatives need to address: deciding how data is governed, how consent is processed, and the long term sustainability of these initiatives given the costs of technology.[22]

Another form of participatory data stewardship is the concept of a data trust.[23] In research to assess the feasibility of data trusts to tackle the climate crisis, the ODI and Aapti Institute created a set of feasibility criteria, which alludes to some of the key success factors. These factors covered: incentives, community capacity, leadership/champions, demand for data, legal environment for data rights and fiduciary responsibilities, technology,

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[20] Shirima, V. (2022), 'Critical Success Factors for the Better Performance of Agricultural Marketing Co-operative Societies in Rombo District, Tanzania: Are Members Aware of Them?'

[21] Garnevska, E. et al. (2011), 'Factors for Successful Development of Farmer cooperatives in Northwest China'.

[22] Tait, J. (2021), 'The Case for Data Cooperatives'.

[23] Delacroix, S. & Lawrence, N. D. (2019), 'Bottom-up data Trusts: disturbing the 'one size fits all' approach to data governance'.

and funding.[24] Meanwhile, the Data Trusts Initiative focuses on community, technology, legal landscape, financial sustainability and domain factors.[25]

For participatory public engagement initiatives, the research pertaining to how these methods work in a data context is limited. However, since these models tend to rely on deliberative practices, they are usually adaptable to cover any subject matter. Across literature focused on participatory public engagement initiatives, there is a trend of focusing on citizen engagement, and how to increase citizen participation within participatory initiatives.[26] One noteworthy aspect underlined in research is the significant role of motivation in ensuring active citizen participation.[27]

On Think Tanks' research seeks to establish best practices for global public engagement emphasising tailored approaches and diverse audience engagement to maximise impact.[28] Evidence derived from public engagement efforts plays a pivotal role in shaping their implementation and impact. Successful initiatives must address fundamental questions regarding their effectiveness, target audience, contextual relevance, mechanisms, rationales and scope. Tailored communication strategies are also essential for ensuring the audience understands the initiative and the impact of public engagement, particularly when engaging with contentious issues.[29] The stakes are higher for experts, individuals and the society while navigating such complex and contentious issues within environments characterised by power imbalances.[30] Success is determined by whether citizens believe it has addressed issues that they feel are important to them.

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[24] GPAI (2022), 'Enabling Data Sharing for Social Benefit Through Data Trusts: Data Trusts in Climate'.

[25] Montgomery, J. (2022), 'Creating a pathway to successful real-world data trusts'.

[26] Royo, S. et al. (2023), 'The success of e-participation. Learning lessons from Decide Madrid and We asked, You said, We did in Scotland'.

[27] Tinati, R., et al (2015), 'Exploring the global adoption of citizen science'.

[28] Patel, R, Yeo, S. (2021), 'What works? Developing a global evidence base for public engagement'.

[29] Ibid.

[30] Ibid.

Findings from the interviews

In our review of literature on success factors, we identified three main categories: the incentive or overarching goal the project aims to accomplish; the allocation of sufficient time and financial resources; and active engagement of participants and the fostering of citizen involvement. These three categories featured heavily in the results of our interviews. However, the interviews also placed value on the design of the initiative, as well as external factors influencing the participatory initiative. One additional difference was the focus on technical, data-specific success factors in the literature. In our interviews, success factors were more general, mentions of specific technical factors pertaining to data being made in a matter-of-fact way. Five main overarching groups of success factors emerged from the analysis of the interviews: the participants, other stakeholders, inputs, design, and external factors. Within groups, multiple sub-factors influence success.

Participants

Across the different participatory data initiatives that we interviewed as part of this research, each spoke passionately about the importance of the people involved, and their role in making participation a success.

- **Representation** refers to the diversity of participants involved in a participatory process reflecting the wider community affected by that data. So if a project is about sanitation data in a certain area, or mobility data in a city, the people living there (or a representative subset) must be involved. This representation increases buy-in to the initiative, as people are more likely to engage with local issues, and build community with their local counterparts. Having a diverse group of participants also ensures that the outcomes are representative of the lived experience of that community, covering different perspectives and demographics.

- **Community building**. A sense of community can come naturally in some participatory initiatives, as the participants often coalesce around a common challenge which they seek to tackle. In some cases, interviewees spoke about the benefits of starting an initiative with a pre-existing community rather than building one from scratch. Relying upon the existing relationships, processes and structures within a community can ensure that more time and effort is placed on the participatory process rather than community building. Several interviewees also mentioned the benefit of having a participant with influence and respect within the community, to support the initiative to push forward, and increase buy-in with the

wider community. Finally, for those working with external communities, several interviewees reiterated the need to 'work with the community rather than for the community'. Building a strong connection with the community was important in building trust, increasing the number of engaged participants, and ultimately increasing the chances of success.

- **Data literacy**. Across most of the interviewees, the role of data literacy, or an understanding of how the data ecosystem works, was seen as an important factor in success. In some cases, the community may already have this knowledge, but in others, the educational side of things was crucial. This understanding supported those engaging in debate and deliberation. Those collecting new data points got to understand how the technology works and how data can create change. Those making decisions about access to data developed an understanding of the impact of their decisions. One interviewee stated: 'This shift from reliance on external sources to managing their own data can be transformative, giving individuals agency and the ability to address their own challenges.'

Other stakeholders

For many of the initiatives we interviewed, the stakeholders involved in the participatory initiative were key factors for success. While these stakeholders varied depending on the type of approach required in each instance, the following categories cover the main groups:

- **The internal team.** The team involved in designing and deploying participatory initiatives are critical to its success. They design the initiative, usually in collaboration with the participants, they build the initiative, and they are involved in organising the initiative as it comes to life. The internal team brings expertise and skills from their previous experiences, such as running similar participatory initiatives in other settings. They could also be relevant skills for running an initiative – for example, technical skills to help design and deploy the data infrastructure for a project, or fundraising skills, to support in raising funds for the initiative. Those with smaller budgets and at the early stages of development said it was key to ensure the right combination of different skill sets were involved in the initiative. This had a real impact on the outcome of the project. For one interviewee in particular, the decision to go with a social movement expert over a technical expert altered their direction of travel significantly. The internal team are also usually able to dedicate significant amounts of time to the participatory initiative, which enables them to take on some of the tasks that can slip in more traditional community-led

initiatives – for example, acting as a convener between a community and a decision-maker. One further aspect mentioned was longevity: where team members move on to new roles, or step back from the initiative, it is crucial to ensure that their expertise, experience and knowledge are not lost.

- **Champions.** Champions 'drive and push for change' for an initiative, they push for the project, they influence decision-makers to listen to the community, and they represent the initiative to a wider audience. These champions can be internal to the organisation – for example, an executive-level position in an organisation that is running a participatory process – or external – for example, a relevant decision-maker or funder who sees the benefits of the initiative. Champions can be especially effective when they are 'recognised leaders in their field, picking up the mantle and saying this is the right thing to do'. These champions can be important in promoting the work, enabling the continued use of participatory methods, and ultimately in affecting change based on the participatory initiative. For example, within a city context, having someone in local government who supports and champions citizen-collected data is much more likely to achieve the desired outcome, as well as to support ongoing collaboration.

- **Steering committee.** Several of the participatory initiatives interviewed as part of this research spoke about the importance of having an expert steering committee or advisory board involved in supporting the initiative. While this group would not have any specific decision-making power, they were seen to be useful in guiding and advising the initiative on how to move forward. The groups bring outside perspectives beyond the experiences of the team, and could challenge the organisers when they'd 'got onto groupthink and gone down the wrong route'. They were seen to enable participatory initiatives to overcome challenges, to ensure the design supports the required outcomes, and to provide some challenge of common preconceptions.

Inputs

The inputs to an organisation can include things like financial resources, time and technology. Interviewees mentioned these inputs in a matter-of-fact way, suggesting that these factors obviously have a significant impact on the scale, impact and ultimately success of any initiative.

- **Funding.** Naturally for many of these initiatives, some degree of funding is required, whether to pay for staff time or contractors, or technology (including maintenance of data), or to incentivise participants. Even for examples of truly bottom-up, community-led participatory initiatives, there are still some costs involved in hosting data. Many participatory initiatives are relatively expensive. The level of funding for these initiatives also ultimately impacts the scope of the initiative. Additional funding enables more investment into technology, more participants, and more wide-reaching engagement. The ability to secure funding was seen as an important factor in the longevity of an initiative (where longevity was considered to be an aspect of success). Several interviewees noted that demonstrating the impact of an initiative was a crucial part of achieving further funding. However, they found this difficult, as current funding pots rarely covered time to measure impact, nor to seek additional funding, making it difficult to achieve continuous financial funding.

- **Time.** Where participatory processes seek to affect societal change, such as improving public infrastructure, or impacting new or existing legislation, they take time. Decision-makers don't immediately change their behaviours based on new data points, and interviewees alluded to the fact that it takes persistent effort to achieve the change they sought to see, as well as time to develop a participatory initiative that best serves a community.

- **Technology.** Developing new technology specifically for each participatory initiative can be expensive. One participant reflected on the difficulty of funding technology development: 'Building technology and software just needs a lot of money, and philanthropic funding or state funding is not often targeted towards that'. A number of interviewees mentioned the benefit in exploring potential collaboration. For example, those working in the mapping space suggested working with OpenStreetMap to reduce the costs of developing their own map, while simultaneously contributing to a larger-scale knowledge commons.

Design of the initiative

Ultimately, decisions about the design of a participatory initiative were key in the success of the initiative. This includes questions about the methodology of participation, the governance structure, the incentives for participants, and the technology used.

- **Methodology** refers to the type of participatory approach used, and how an initiative implements the approach in practice. Different contexts required different methods, depending on the ultimate goal of the initiative. A key deciding factor in selecting the right methodology was the power dynamics of the focus area. This means considering the relationship to those making decisions and the interest of decision-makers in sharing power, and enabling the participatory initiative to take some control over decision-making. Other important factors included the amount of time available for the initiative, the ability of people to contribute, and the number of people that need to be involved. Participation can also extend into the design of the methodology, as involving participants leads to processes that best meet their needs. Interviewees suggested that experimentation is often required to find the right method and said it is important to be flexible and adaptable in case things are not working. Ultimately, a key to success was utilising methods that enable the lived experiences of people and communities to be included in findings – for example, selecting a methodology that enables local fishers to digitise their knowledge of the local water system, which is important to them. The methodology should serve the community directly while maximising the wider societal benefit.

- **Technology.** The technology used was seen as a critical part of making participatory processes happen, and particularly the access to technology for participants. This was particularly important for initiatives in the Global South, where there is less widespread access to smartphones and lower digital literacy. In some places, offline methods were required. For example, one organisation started their participatory mapping initiative via Whatsapp, but needed to pivot to data collection via door-to-door conversations to reach the community. In another example, the organisation used a shadow mapping methodology to understand how young women moved around the city, as these women did not have access to the technology necessary to map themselves. On the other hand, the technology must also meet the needs of the approach, or user of the data. For example, for one of the initiatives we

interviewed, users are able to upload any type of data they like, but it must be in a file format (e.g. CSV or JSON). This enables complexity and flexibility at the user end, while ensuring a level of standardisation and interoperability for the initiative.

- **Legal structure.** While legal forms varied across the organisations interviewed, including non-profits, data cooperatives and more, it was not a key factor for success per se. Different legal forms have unique features which were considered beneficial for different contexts – for example, members' ability to vote as part of a cooperative.

- **Governance structure.** Governance in a participatory initiative can speak to several things. For some, it refers to the governance of the initiative itself, while for others, it refers to governance of the data. The participatory mechanism can also be part of the governance structure in its own right. In each case, the governance structure should ultimately aim to serve the needs of the community. Many said governance should be determined by, or taken part in, by the community, as it builds trust with those taking part. Governance structures act as the accountability mechanism to ensure that people can trust the initiative, and that they see it working in their interests. In terms of how governance works in practice, there was no set consensus beyond the need to involve some of the participants. It may not be plausible to give every participant individual decision-making powers, but they should be involved in some capacity. Balancing the utility of, and access to, the data with the empowerment of communities was key. Decisions made through the governance structure may not be legally binding, but must be transparent so that people can see how decisions have been made, and respond. Finally, interviewees said good governance can lead to better data, products, technologies and more. Oversight from the community is therefore a key factor in an initiative's success.

- **Incentives and engagement.** Several types of incentives were mentioned in the interviews, from tangible financial incentives to more intangible ones, such as contributing to societal change or tackling a community issue. A project's expected impact, and the ability of the initiative to meet that impact, was seen as a key incentive for many of the initiatives we spoke with, as those taking part believed they could make a difference by being involved. Another common incentive was the opportunity for empowerment and independence of a community. Providing a community with the chance to have a seat at the table, and to

collect data that matters to them and reflects their lived experiences, was seen as important for success. In any participatory approach, participants need to be engaged in the process, and a big part of that is seeing that the process is balanced, independent and mutually beneficial.

External factors

There are several factors outside of the control of the initiative, but awareness and mitigation of these can enable an organisation to manage its impact on the initiative.

- **Political climate.** Wider social dynamics and the political climate could have an external impact on participatory processes, both positively and negatively. One participant spoke about a huge increase in participation and interest in health research during the Covid-19 pandemic, leading to much higher engagement in their platform. On the other hand, new legislation and regulation can have an impact on particular types of organisation. For example, one organisation said the concept of data altruism organisations within the EU Data Services Act would likely affect the way their organisation functions, and ultimately how it decides to steward data. Finally, changes to governments and local authorities can impact the interest in, and support of, participatory data initiatives.

- **System dynamics.** For many participatory initiatives seeking to affect change, the power to make decisions based on a participatory initiative rests with decision-makers in local governments, businesses or national governments. Initial work to identify those with access to levers of change is a useful exercise, and can help plan how to interact with these stakeholders. The relationship to these decision-makers is an important part of the success. Counterintuitively, closeness to these decision-makers does not always lead to successful outcomes and in some cases, independence was seen as a key driver in success, for example in building trust with a community and creating a sense of empowerment that they can change their fate. In summary, working with decision-makers in a way that works best in the context was seen as crucial – different strategies work in different scenarios.

- **Commissioners** are those who procure participatory processes or initiatives. They often have the power to set the terms of reference for the participatory initiative, meaning they can decide how much power they want to cede to the people taking part, and how much change they allow the process to create. Similarly, throughout the process,

those who get deeply involved and seek to control the outcomes of the engagement were seen to be difficult and ultimately negatively impact the independence of the process. One potential negative impact is that if commissioners leave part way through a project, there may be no champion or leader of the work.

Section 3: Is there a unifying vision of success across different initiatives, stakeholder groups or geographies?

Each participatory approach to data is different in the methods it chooses to involve members of the public, the countries in which it is based, the number of participants, and the different stakeholders involved. Concepts of success, and success factors, can vary across these different characteristics of an initiative. The following section explores where there is uniformity across these approaches, and where there are differences.

Identifying common ground in conceptualisations of success

Our conceptualisation of participation in a data context is purposefully inclusive, covering many different forms of participation. There is a uniting factor – they enable people to be more involved in the data ecosystem, whether by creating new data points, analysing data, or contributing to a dialogue on data policy. However, since they differ in how they function and the role they seek to play, their conceptualisations of success, and the factors leading to success, differ.

All participatory approaches to data are unified through a desire for impact, in tackling specific issues. Impact for participatory initiatives can take several different forms. For example, in defining success, a citizen science project may focus on the importance of generating new data points, whereas for a patient panel, deliberating on access to data, the generation of new data points is completely unrelated to their work (in the numerical understanding of data). Creating impact through the involvement of people and communities is the cornerstone of success, regardless of whether that is via collecting new data points about a specific medical condition as a community, or deciding whether pharmaceutical companies should have access to private health data for research.

There are other common conceptualisations of success relating to community empowerment, and enabling more people to participate in the data economy in

a meaningful way. And for some initiatives, simply having people taking part, or contributing to a collective dataset, is success.

Divergence in conceptualisations of success by stakeholder group

Each participatory initiative has a variety of stakeholders involved, from those organising the initiative through to the participants and those supporting the initiative, like funders. While this research has primarily focused on the perspective of those organising participatory approaches to data, other perspectives were explored via the interviews and literature review.

As detailed above, success for those organising participatory approaches focuses on impact, and in creating change in the world. From the viewpoint of policymakers, success is often focused on the production of data and the opportunity to engage with citizens through participatory initiatives. Policymakers define success based on active participation in these processes, viewing them as avenues for gathering valuable insights and fostering collaborative decision-making. Success for them manifests in the form of enriched dialogue and data, as well as enhanced citizen engagement, laying the groundwork for informed policy formulation and implementation.

Contrastingly, participants perceive success through the lens of tangible change and progress,and measure it by witnessing the evolution of work beyond their initial engagement, observing how their contributions, particularly their data, make a meaningful difference in driving positive outcomes.[31] Success, from the participants' perspective, is intertwined with the realisation that their input has spurred impactful change and advancements in the projects or initiatives in which they are involved.

Participants define success as the ability to recognize the intrinsic value of data collection not merely as a problem-solving tool but as a means to engage and mobilise others towards collective problem solving. They understand that data serves as a facilitator for collaboration and advocacy, enabling them to garner support and resources from external stakeholders who can contribute to solving issues that affect the community.

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[31] Land-Zandstra, A. et al. (2021), 'Participants in Citizen Science'.

Variation of success factors in the Global North and South

In addition to the various factors influencing the success of participatory initiatives, there are specific concerns that need to be taken into account for projects undertaken in the Global South. Factoring in these concerns will ensure the effectiveness and sustainability of participatory initiatives in diverse socio-cultural contexts. In our interviews, we found three broad challenges for participatory initiatives in the Global South: vulnerability; how varying literacy levels affects effective engagement; and disparities in access to, and familiarity with, technology. These insights mirrored findings in literature examining challenges around digitalisation and digital inequalities in the Global South.[32]

- Many communities in the Global South face various **vulnerabilities**, including economic challenges, environmental risks and social inequalities.[33] In the interviews, we heard that when engaging with low-income groups or rural populations, it is common to encounter significant reluctance towards participation in initiatives. Taking part in these initiatives may not always resonate as essential or urgent, given the other challenges they face in their daily lives. Factors like limited access to basic services, economic instability and social challenges often take precedence over participatory engagement, shaping their perceptions and willingness to participate. Addressing this reluctance requires organisers to understand nuanced dynamics within these communities. Interviewees said factors such as cultural norms, traditional power structures, prior extractive experiences of participation and communications barriers can significantly influence receptiveness to participatory initiatives. One interviewee summarised these challenges: 'It requires a very committed…person who really wants to do this and make change happen, a big mindset change is required to participate in such initiatives in the Global South.'

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[32] Ragnedda, M. & Gladkova, A. (2020), 'Understanding Digital Inequalities in the Global South'.
[33] De Bastion, G. & Mukku S. (2020), 'Data and the Global South: Key Issues for Inclusive Digital Development'.

- **Literacy levels**, including data literacy, play a pivotal role in participatory data initiatives. While this was also a theme across many of the interviews, it was of particular note for those operating in the Global South, where literacy rates vary significantly.[34] As mentioned in the previous section, a level of data literacy is important for participants to meaningfully engage in the participatory process. Efforts to improve data literacy among communities in the Global South should be integrated into participatory initiatives. This includes providing training, resources, and support to build confidence and skills in handling data.

- **Access to technology** remains a significant challenge in the Global South, contributing to a lack of familiarity with technological tools among certain demographics.[35] While younger generations have proved to be more tech-savvy and open to using digital platforms for participation, convincing their families, particularly older generations, can be a gradual process. One example from the interviews was the limited reach of online surveys, particularly among older populations. While online surveys offer convenience and efficiency, their effectiveness is hampered by the lack of access and familiarity with digital platforms for older populations. Therefore, it is important to develop alternative methods to engage with such demographics effectively.

While these themes apply across countries around the world, the digital divide between the Global North and South means that challenges around data literacy and access to technology are more pronounced.[36] Additional work is required to understand and adapt to the needs of different groups, to enable those who may otherwise be excluded to participate.

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[34] World Economic Forum (2022), 'This is how much the global literacy rate grew over 200 years'.
[35] Signé, L. (2023), 'Fixing the global digital divide and digital access gap'.
[36] Tavares, A.P. et. al. (2022), 'Connecting the Unconnected in the Global South: Bridging the Digital Divide from a Critical Perspective'.

Section 4: A framework for successful participatory approaches to data

In this research, we combine the insights from the literature and from interviews, to create a holistic understanding of the definitions of success and success factors for participatory data initiatives. We aim to articulate the determinants of success in participatory data initiatives more broadly, unlike previous studies that have often focused on a singular field, participatory approach or geographic region.

This broader view enables an understanding of the constituent parts of success, built from a variety of different types of participation. The 11 interviewees of this project spoke about their experiences in different participatory initiatives, across eight sectors (including health, mapping and mobility) and varying participant numbers (from tens to hundreds of thousands). While the literature review covered research from more than 50 sources, covering a variety of participatory approaches in different geographies.

Understanding success in participatory approaches to data requires a nuanced examination tailored to each organisation. By conceptualising success parameters in such a manner, organisations can accurately assess the effectiveness of their participatory initiatives. This approach allows for a comprehensive analysis of success factors, which extend beyond mere participation rates to encompass the broader impact and outcomes of participatory data practices. Unravelling these factors within the context of organisational goals and objectives will aid stakeholders in navigating the complexities of participatory data initiatives and drive sustainable outcomes.

Defining success

Each participatory initiative should start by defining what success means to them. This conceptualisation of success should ultimately be informed by participants involved in the initiative – what are they seeking to achieve by taking part in this process? In this research, we found that this is generally informed by the impact that an initiative would like to have, or the change it wants to see in the world, as well as the creation of new data points, the effective completion of a project, and the empowerment of the community.

Based on this research, for those implementing a participatory data process, defining a vision of success should be centred on the impact the initiative wants to have on the world. This may be to improve sanitation in an area of the city, to increase positive health outcomes for a certain medical condition, or to influence new regulation on emerging technology. This long-term vision should function as the guiding principle for further decisions about the initiative, and should inform reflections on, and decisions about, the different factors that can contribute to success. This approach, of starting with the impact or purpose of an initiative, mirrors our thinking around supporting organisations to steward data in a safe and secure way.[37] We begin with the purpose of an initiative, before working through the different legal, governance, commercial and technical factors required to achieve that purpose. The same approach holds here, but the factors that lead to success will differ.

Success factors

This research sought to explore the different aspects of participatory initiatives that contribute to success. Breaking down success into its component parts enables participatory data initiatives to better understand how to succeed, and ultimately to make better decisions about where to prioritise efforts. The following success factors are those that emerged from this research, and those organising participatory initiatives should consider how each of them enables them to achieve success.

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[37] Keller, J. R., ODI (2021), 'How do data institutions facilitate safe access to sensitive data?'.

The **participants** are the foundation of any participatory data initiative. To increase the chances of success, participatory data initiatives should be representative of their wider community. Efforts should be made to further build on the community ties, to elevate the data literacy of the group, so they can more meaningfully contribute to the initiative.

- Who is most likely to be impacted by the initiative, and how can they best be involved?
- Is the community that the initiative seeks to serve adequately represented?
- Are there trusted members, or champions, in the community who can be identified to help support the initiative?
- Does the initiative invest in building the necessary data literacy within the community?

The **other stakeholders** are the engine driving the initiative forward. They include the internal team, the champions and the steering committee, and getting the right combination and makeup of these stakeholders is crucial. Selecting the skill sets that can best enable a participatory approach to create the impact it wants to see, at the right moment in its life cycle, is important.

- Does the internal team have a sufficient spread of interdisciplinary expertise to account for the various facets to design and runn the initiative?
- Does the internal team running the initiative possess the necessary technical skills to execute the project?
- Do internal team members have the ability to dedicate sufficient time and energy to the initiative?
- Is there a need for an advisory board to provide expert direction and mentoring?

Inputs include the funding, time and technology available to support a participatory initiative. These factors facilitate the initiative and enable the participatory initiative to vary in size, depth and scope, depending on the combination available. For example, increases to the funding may enable additional participants to take part in a public dialogue, improved technology, or the amount of time spent deliberating.

- Is there a diversity in the sources of funding for the initiative, to ensure enhanced sustainability?
- Are there existing technologies that can be leveraged for the initiative?
- Does the initiative set out adequate time for the various steps in the design and deployment of the initiative?
- Are key impact metrics pegged to flexible and realistic timelines?

The **design** choices made in a participatory data initiative have significant impacts on the outcome. This includes choices related to the participatory methodologies and tools used for participant engagement and communication, the quality of the output (whether data or deliberation), the legal and governance model selected to structure the initiative, and the incentives available to encourage participants to take part.

- Has the community been involved in the design of the participatory initiative – ensuring that the initiative is carried out with the target community, rather than for them?
- What type of participatory approaches will best suit the initiative, given the realities of the context, accounting for power dynamics, capacity of participants (in terms of time and skill) and size?
- Does the governance structure of the initiative ensure transparency, accountability and reflexivity?
- Are there sufficient incentives provided to ensure the meaningful and sustained engagement of participants from the target communities?
- What is the nature of the initiative's potential impact on the target community?
- What steps will be taken to ensure the quality of the output (whether a data set, deliberation or otherwise)?

Finally, how an initiative navigates **external factors** outside of the control of the initiative can have an impact on its ability to achieve their goals. Aspects such as the political climate, system dynamics, and the commissioners of the initiative can all positively or negatively impact its success.

- How does the current political climate impact the initiative?
- Are there legal challenges, hurdles and compliances that need to be accounted for in designing and deploying the initiative?
- Have key decision-makers been identified in governments or businesses that are needed to effectuate meaningful change? Have efforts been made to build robust relationships with these decision-makers?

For those seeking to implement participatory data initiatives, this framework provides a structure for thinking about the different elements of achieving success. The importance of each specific success factor will vary depending on a variety of factors, some of which may be fixed – for example, the type of participatory approach, the ultimate success the initiative seeks to achieve, or the location where the initiative is based. Using the definition of success as a guiding light through thinking about these different success factors enables more nuanced decision-making and design of an initiative.

In essence, the pursuit of success in participatory initiatives converges on the transformative potential of data – transforming it from a passive collection of information to a dynamic tool for social change and empowerment. Success is not merely defined by numbers or statistics but by the narratives woven into data, encapsulating the variety of human experiences and realities.

Methodology

We undertook a mixed methodology approach for this research work, combining desk research, in the form of a literature review, with expert interviews. The research uses the following understanding of different types of participatory approaches to data developed as part of the participatory data programme. This framework provides the guidelines for the selection of literature, and interviewees across the different levels of the data ecosystem:

- At the data level, people can be involved in the creation, maintenance, use and sharing of data, and can decide how and when data should flow, and why.

- At the organisational level, people can be involved in the governance of organisations that collect, maintain and share data.

- At the policy level, people can be involved in determining the 'rules of the game', via methods like public dialogues or citizen juries.

Literature review: We reviewed literature that examined conceptualisations of success, and success factors. We began by taking a broad view of these concepts through the lens of participatory practices in general, before narrowing down to literature focusing on participatory approaches to data. This dual approach ensured that we covered the situation where success factors into a particular type of participatory approach to data had not yet been researched. For example, data co-operatives are a relatively nascent concept, meaning that we relied upon literature covering success factors for co-operatives in different settings. The literature review covered over fifty documents from across academic and grey literature. The literature revisited literature covered in previous studies, as well as searching for new literature on Google Search and Google Scholar. Key search terms included a combination of 'success factors', 'define success', 'participation', 'data', and '[specific type of participatory methodology]'.

In analysing the papers, we sought to identify the approaches to conceptualising and defining success, and the factors that were identified to contribute to this success. The key themes analysed from the literature review fed into the development of the expert interview guide, which focused on the key themes drawn out from the literature.

Expert interviews: We spoke to 11 experts with varied backgrounds and experiences in conducting, participating and evaluating participatory initiatives. The experts, listed below, included those operating in the health, cities and international development sectors. The diversity of the experts provided us with a broad understanding of how success was viewed and a more diverse perspective of the factors that contributed to the perceived or quantified success of an initiative. We used the following criteria for the selection of participants:

- **Type of participatory initiative:** In our thinking on participatory data, we set out three layers of ways people can participate in a given initiative: the data layer, the organisation layer and the policy layer. We sought to speak with informants across all three layers, and attempted to find diversity of sector and method within each layer as well. While this was largely successful for the data and policy layer, we were only able to speak with one key informant at the organisational layer.

- **Geographic distribution:** From prior research, we identified that the cultural, economic, political and social contexts that initiatives are situated in have an impact on their planning and execution (and even their success).[38] To account for this, we also ensured a good geographic spread in the informants we spoke to, with a 5:6 split of initiatives in the Global North and South.

- **Number of participants in the data initiative:** Lastly, we sought to engage with small and big initiatives in terms of their participant size, for the results of this study to also account for factors affected by scale. The initiatives ranged from approximately ten participants, up to hundreds of thousands.

The one-hour interviews took place online. They focused partially on how interviewees defined or understood success for their initiatives as organisers, as well as their perspectives on how the participants understood success. It also explored different success factors in depth, investigating how each one led to success. The interviews were analysed in Dovetail via a coding framework developed in collaboration across the research team, based on the literature review.

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[38] Aapti Institute (2023), 'Fostering Participatory Data Stewardship'.

Limitations

At the ODI, we want to create a world where data works for everyone. Diversity, equity and inclusion is an important part of how we do research, and we strive to ensure that all of our research adheres to these principles. In practice, this means ensuring that we seek to engage with a diversity of perspectives, and take an inclusive approach to research. We may not always achieve these aims, but we strive to improve on this work in every project.

Taking an expert interview approach means that we were able to only speak with a limited number of experts, and thus our view of success and success factors is heavily informed by a deep understanding of their experiences. This was an issue for the organisational layer, where we were only able to interview one organisation. However, our research design, which included a literature review to provide supporting insights from prior study, helped to mitigate this limitation.

Additionally, we prioritised the perspectives of those organising the participatory initiative. Further nuance could be gained from speaking with other stakeholders in the ecosystem, including participants and commissioners. While we did ask the interviewees about the perspectives they may have, additional research could bring further insight.