

ABSTRACT

GRIEBEL, CORIEANDER. The Theory and Practice of Stakeholder Engagement in Sustainability Fields (Under the direction of Dr. Khara Grieger).

It is increasingly recognized that stakeholders are a vital part of developing interdisciplinary solutions related to sustainability problems. At the same time, research efforts that investigate best practices of engagement are still in development, and key steps for engagement are not always accessible to the groups or individuals who are seeking to plan and/or conduct stakeholder engagement. Among other challenges, there are diverging definitions of the term “stakeholder” in the literature, varying approaches and methods for engagement, and unclear metrics to evaluate engagement practices. There is also little research that documents the practical challenges and experiences of practitioners as they conduct engagement activities. This gap in the literature is important to identify because sustainable solutions necessitate the effective involvement of stakeholders, experts, and publics, but there are many practical barriers to this work. By examining tangible experiences in the stakeholder engagement space, this study aims to 1) identify best practices for stakeholder engagement in inclusive settings, 2) identify and examine common challenges faced by researchers through engagement processes, and 3) offer recommendations for overcoming key challenges within the engagement processes.

To accomplish the study goals, a literature review was first conducted on stakeholder engagement practices and approaches. Next, an online survey was developed and deployed to researchers and practitioners in the U.S. who conduct stakeholder engagement within sustainability contexts, to understand the key challenges they experience. A total of 149 study participants completed the survey, with a total of 121 respondents who answered all the questions. Therefore the total sample size of the survey was 121 participants. To complement the results of the survey, in-depth interviews were conducted with a sample of 10 survey respondents, in which the results were qualitatively analyzed using NVivo to identify key themes and codes. Overall, analysis of the survey and interviews show challenges and barriers to engagement are complex and nuanced. Based on these results, participants identified 15 key challenges to conducting engagement in sustainability contexts, including barriers to participation, building and maintaining relationships, checking a box, conflicts between stakeholders, defining goals or issues, lack of capacity, measuring success, misinformation, benefits to stakeholders, power imbalances, reaching consensus, stakeholder compensation,

transparency, understanding stakeholder needs, and varying perspectives. These results indicate that there are more challenges to carrying out stakeholder engagement than elaborated on in the literature, thereby providing a more nuanced view of the range of challenges experienced by researchers and practitioners.

Overall, this study adds to a growing body of research related to best practices and processes for engaging stakeholders and provides practitioners in sustainability fields with tools and recommendations to more effectively engage a diversity of stakeholders in inclusive settings. This work also fulfills a crucial need to address common challenges by offering practical solutions for those leading this work.

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The Theory and Practice of Stakeholder Engagement in Sustainability Fields

by
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DEDICATION

This thesis is dedicated to the memory of Edward Griebel and Mindy DeCesar who could not be here to celebrate this accomplishment, but for whom this accomplishment would not have been possible. Thank you.

BIOGRAPHY

Corieander Griebel was born in Charlotte, North Carolina. Although she grew up in an urban area, she had a deep care for the environment and nature, visiting family in the Blue Ridge Mountains often. This love for nature and the environment led her to pursue an undergraduate degree at North Carolina State University in Environmental Science. The program connected her to the Walnut Creek Wetland Center, where she worked throughout her undergraduate and graduate studies, and grew a passion for environmental justice. Upon graduation from her undergraduate studies, she began a Master of Science in Natural Resources with a focus in Policy and Administration, alongside a research assistantship with the Science and Technologies for Phosphorus Sustainability (STEPS) Center. Her work through her graduate studies has focused on best practices for inclusive stakeholder engagement, and improving engagement processes.

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Thank you to my parents, Brian and Rosalie, for always pushing me to learn and explore the world around me. It is your love and support that have led me to where I am today and allowed me to pursue an education that I am passionate about.

Lastly, thank you to my family members who have encouraged and supported me through my educational journey. Thank you to my grandma, Toby, and grandpa, Ed, for making sure I had everything I needed to complete my NC State education. Thank you to my godmother, Anna, grandma, Abby, cousin, Nellie, and great aunt Mindy, who encouraged my love for the earth and its natural resources, and inspired me to pursue a career in a field that allowed me to further these values.

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INTRODUCTION

With sustainability issues being at the forefront of today's scientific inquiries, including but not limited to addressing climate change, food security, and environmental health, it is important to include diverse perspectives in research, policy, and decision-making, that address the needs of those affected and who may affect these wicked problems (Reed, 2008). Wicked problems are complex challenges that are difficult to solve, usually because they are difficult to define, lack information, or have many conflicting values (Rittel et al., 1973). Further, because of the inherently complex and expansive nature of the field of sustainability, stakeholder engagement is necessary to ensure that individuals and organizations are working together to address these large-scale societal problems. Sustainability as a field encompasses many different disciplines that come together to develop solutions to sustainably manage many different resources, including ecosystems, food systems, infrastructure, and others, while also taking into account human health, the environment, and socio-economic factors (United Nations, 2012). Among other benefits, as further detailed in subsequent sections, engaging stakeholders can increase the quality of decisions and outcomes, integrate practical knowledge into solutions, build capacity among stakeholders and organizations, and enhance technology adoption, policy changes, and research dissemination (Nygaard et al. 2021; Ahmad et al., 2012; Litt et al., 2013; Reed, 2008; King et al. 2014; Blackstock et al. 2007; Sarewitz, 1996; Beierle, 2002; Richards et al., 2004). Environmental change has heightened the need for comprehensive and innovative solutions that require perspectives from many disciplines and backgrounds (Shrivastava et al. 2020). Overall, by engaging stakeholders, we are able to address the diverse needs of people and the environment and create more just and fair solutions to environmental problems.

For the purpose of this research, the term "stakeholder" is meant to encompass a broad group of individuals and groups who can affect or be affected by an event, process, activity, intervention, innovation, and/or decision (Freeman, 1984; Reed et al., 2009; Colvin et al., 2016). Additionally, the term "sustainability" is also meant to be broad and include a diverse set of disciplines and practitioners that work on issues related to the long-term sustainability of our environment, health and wellbeing, food systems, and development (United Nations, 2012). Another commonly used framing of the concept of "sustainability" was put forward by the United Nations, which defined sustainability as "meeting the needs of the present without

compromising the ability of future generations to meet their own needs” (United Nations, 2012). Overall, by maintaining a broad perspective on these terms, we are able to include a diverse and comprehensive set of perspectives related to the inclusion of stakeholders in sustainability projects and issues.

The concept of stakeholder engagement has gained more traction in recent years and is a growing area of research (Kujala et al., 2022). Despite its growing interest, definitions and processes remain fragmented and varied (Franklin, 2020; Kujala et al., 2022). As outlined in subsequent sections, there are many different definitions for the term stakeholder as well as many different methodologies for engaging stakeholders in different fields. This in turn makes it difficult for practitioners to effectively plan and conduct meaningful stakeholder engagement practices and activities. Further, researchers and practitioners may also experience several challenges in carrying out engagement work, due to a variety of reasons (e.g. lack of resources, time, and unclear goals) (Haddaway et al., 2017). Therefore, there is a distinct gap between the theory outlined in the literature on engagement and the real-world practice of stakeholder engagement in different contexts, including those in sustainability, such as managing our phosphorus supplies in society (e.g. Grieger et al., 2023; Merck et al., 2023; Deviney et al. 2023). In other words, there is a gap in the literature as it relates to identifying and documenting key challenges and barriers that engagement researchers and practitioners experience. While there have been multiple studies and reports that describe different types of challenges to conducting stakeholder engagement (Haddaway et al., 2017; Mease et al., 2018), there has not yet been a published study that broadly captures key challenges for engaging stakeholders in a field as large and diverse as sustainability.

This study aims to help close this gap in the literature by first identifying best practices for stakeholder engagement in inclusive settings based on available literature, and then identifying and examining common challenges faced by practitioners using an online survey and interviews. By comparing the theoretical frameworks identified through literature and authentic experiences documented through the survey and interviews, discrepancies may be identified and examined to better understand the disconnects between the theory and practice of stakeholder engagement. These results will help develop practical solutions to address common challenges and improve stakeholder engagement processes moving forward in other sustainability contexts.

CHAPTER 1: BEST PRACTICES IN STAKEHOLDER ENGAGEMENT

1.1 Introduction

The purpose of this chapter is to review best practices in stakeholder engagement based on a literature review. In particular, this chapter discusses key concepts related to defining stakeholders, the importance of engaging stakeholders, the process of engagement, and key considerations to conduct effective, inclusive, and impactful engagement. Subsequent sections will build upon this chapter to explore the differences between the theory of stakeholder engagement and the tangible experiences of practitioners in this field. It should be noted that this chapter does not aim to be a comprehensive, systematic literature review of best practices in stakeholder engagement, but is meant to provide an overview of key components related to engagement in sustainability contexts. For a more comprehensive overview of stakeholder engagement best practices, see the following: “Strategic Management: A Stakeholder Approach” by Freeman (1984), “Stakeholders: The Theory and Practice” by Friedman and Miles (2006), “Stakeholder Participation for Environmental Management: A Literature Review” by Reed (2008), “Stakeholder Engagement” by Franklin (2020), and “Practical Approaches to Participation” by Richards (2004).

1.2 Setting the Scope of Sustainability Stakeholders

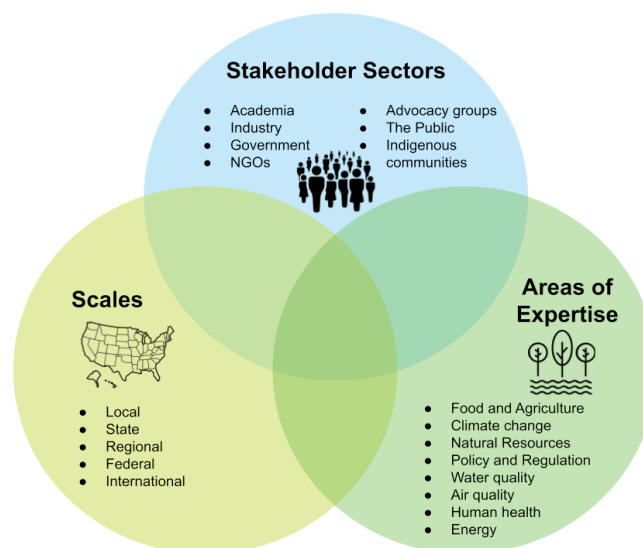


Figure 1: Stakeholder sectors, disciplines, and scales in sustainability contexts (adapted from Grieger, Griebel, et al., 2024)

As defined in the introduction, sustainability for the purpose of this paper is meant to encompass a wide range of disciplines that relate to the long-term viability of our environment, and has been defined by the UN (1987) to mean “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” Scholars within sustainability fields have recognized the need for comprehensive and inclusive stakeholder engagement, positing that effective stakeholder engagement can lead to the desired social and environmental change necessary for a sustainable society (Talley et al., 2016; Wells et al., 2021; Reed et al., 2017; Mease et al., 2018; Kliskey et al., 2021; Gerlack et al., 2023; Eaton et al., 2021).

Sustainability spans a wide range of disciplines, each involving a diverse array of stakeholders. Figure 1 illustrates the various disciplines, scales, and sectors that sustainability stakeholders may represent, though it does not capture every possible perspective. The figure highlights key areas of expertise within sustainability, including food and agriculture, climate change, natural resources, policy and regulation, water quality, air quality, human health, and energy. These examples define the scope of this project, outlining the types and sources of research it will encompass.

1.3 Defining Stakeholders

While the term “stakeholder” has been used in numerous contexts for decades, there is not yet a general consensus on a specific definition in literature. Rather, one of the more commonly cited definitions was initially defined by Freeman (1984), where stakeholders are considered “any group or individual who can affect or is affected by the achievement of the organization's objectives.” The term is meant to represent people who have “a stake” in a particular issue being evaluated. Subsequent definitions have deviated from the business-focused definition to reflect the diverse disciplines that have come to utilize stakeholder engagement theory to develop more comprehensive and effective solutions to complex problems. Miles (2011) discusses how the literature has evolved to include a large range of definitions for the term. Beginning in the late 1990s, researchers began documenting the variety of definitions of the term. Miles’ 2011 research analyzes 435 different definitions from 493 articles. Other researchers have attempted to provide solutions to this problem by proposing definitions that may be more applicable to the many contexts where stakeholders are considered (McGrath et al.,

2017). It is important to note here, that although stakeholder theory and analysis was initially defined for contexts related to businesses and corporations, it has been popularized among other groups including policymakers, regulators, non-governmental organizations (NGOs), universities, research institutions, and the media (Friedman and Miles, 2006).

It should be noted here that, not only are there a variety of ways to define the term stakeholder, but the term can be objectionable to some. Although it is intended to encompass the diverse groups who “have a stake” in an issue, the term stake has been used in a variety of other contexts, including in the colonial theft of land, where settlers would “stake a claim” on land, using stakes to mark land for settlement. Although alternative terms for this field are being explored, the field has not identified a term that is widely adopted to describe the same groups of people that “stakeholder” encompasses (Reed et al., 2024). While this term is contested, it is not the purpose of this research to comment on or examine the language of the field, but to examine the critical role engagement plays in solving complex sustainability issues.

To maintain consistency within this paper and represent a diverse set of practitioners within the field, we rely on a definition of stakeholder provided by Grieger et al. (2022), influenced by Reed et al. (2009), Colvin et al (2016), and the International Risk Governance Center (2020), where a stakeholder is “an individual or group of individuals who can affect or be affected by an event, process, activity, intervention, innovation, and/or decision.”

In general, stakeholders can be divided into several categories to aid in identifying and recruiting diverse individuals or groups of individuals. These categories include, for instance, scale, area of expertise, and sector, among others. Each of these can be further divided into subcategories. For example, scales can include stakeholders on a local, state, regional, national, or international level, depending on the context and needs of the project. Sectors may include academia, industry, government, NGOs, advocacy groups, trade associations, Indigenous communities, and the public (Figure 1). It is important to note here, that although broad, the public can be considered a stakeholder when large-scale sustainability issues are being considered and may affect public groups and communities (Rowe and Frewer, 2000; Grieger et al., 2022). In addition, scholars have suggested that the public may be segmented further to better understand the perspectives and experiences of this broad stakeholder group, and engage the public more effectively (Barnett and Mahoney, 2011, Maibach et al., 2011, Kim et al., 2008). Some scholars also make a distinction between stakeholders and community members, where

community members are individuals whose perspectives and values should be considered, but generally do not have the direct decision-making power that stakeholders usually have. Although community members may occasionally have some decision-making power, the fields of community and stakeholder engagement are generally separated but have a considerable amount of overlap. Comprehensive decision-making processes, especially as they relate to wicked sustainability problems, usually rely on involvement from stakeholders and community members and are representative of diverse perspectives (Kliskey et al., 2021).

Similarly, the term “stakeholder engagement” has also been referred to by a variety of definitions, and encompasses a variety of practices. Most simply, the definition of stakeholder engagement can follow the definition of stakeholder, as a process where individuals or groups are involved in making decisions that they are affected by (Reed, 2017; 2008).

1.4 Importance and Benefits of Stakeholder Engagement

There are several benefits to engaging stakeholders within sustainability contexts. Key benefits include: improved quality of decision-making, integrating practical and local knowledge in decisions and solutions, improving capacity building and increasing mutual learning, and enhancing technology adoption, policy changes, and research dissemination, among others. Each of these points is further explained below.

Quality Decision Making

There is a general consensus in the literature that involving stakeholders in decision-making can improve the outcomes of decisions. A review of case studies that demonstrated stakeholder engagement processes by Beierle (2002) showed that overall, practitioners should be “optimistic” about the potential for stakeholder engagement to improve decision-making processes, specifically within the context of environmental decisions. Additionally, research has shown that stakeholder engagement processes can help decision outcomes be perceived as fairer (Richards et al., 2004). It is important to note here that many factors, including the type of engagement, types of stakeholders, and setting, may limit or hinder desired outcomes, as noted by scholars including Reed (2008), Beirele (2002), and Arnstein (1969).

Integrating Practical and Local Knowledge

By engaging with individuals and groups that have different perspectives, leaders can gain a more complete understanding of the wicked problems involved in contexts like sustainability (National Academies of Sciences, Engineering, and Medicine, 2016). In many cases, especially in sustainability fields, technical expertise is not enough to counteract scientific uncertainty, and incorporating practical and local knowledge can help improve decision-making (Sarewitz, 1996). For example, in conservation settings, Indigenous or local knowledge can be crucial in understanding the natural resources and the historical methods of conservation and land management that have been successful (Yanou et al., 2023).

Capacity Building and Mutual Learning

Stakeholder engagement provides opportunities for leaders, practitioners, and stakeholders to share knowledge and learn from each other. Partnerships formed from stakeholder engagement may also build capacity among these groups to remain better informed and share ideas and perspectives long term. Successful engagement initiatives can build trust and relationships among diverse groups of individuals working on similar issues, which creates a positive feedback loop for future engagement (National Academies of Sciences, Engineering, and Medicine, 2016; King et al. 2014; Blackstock et al. 2007).

Enhancing Technology Adoption, Policy Changes, and Research Dissemination

Understanding stakeholder needs and perceptions can help create more relevant technology, policy changes, and decisions that are ultimately accepted more so than had stakeholders not been involved in the process (Nygaard et al. 2021; Ahmad et al., 2012; Litt et al., 2013; Reed, 2008). For example, Nygaard et al. (2021) describes the need for stakeholder engagement in developing marketable technologies for nitrogen reduction in waters. It has also been noted by scholars that stakeholder engagement may help in effectively disseminating research findings to a wider audience (Cottrell et al. 2015).

1.5 Steps for Engaging Stakeholders

Researchers have presented a variety of theoretical frameworks that guide stakeholder engagement, most notably from Reed (2008), that have attempted to develop a clear process for

effective stakeholder engagement. The framework put forward by Reed (2008) emphasizes the importance of thinking of stakeholder engagement as an iterative process, not simply a toolkit to meet regulatory or other requirements. It also emphasizes the need to consider the goals or objectives of the engagement, the stakeholder perspectives needed, and the level of engagement necessary to meet desired outcomes. From this, we can reference Grieger et al. (2024), to identify broad, but crucial steps for engaging stakeholders. In this model, a practitioner, in order, identifies goals, identifies and selects stakeholders, selects appropriate engagement activities, conducts the engagement, and finally compiles results, reflects, and revises. This five-step process is the basis for the steps of engagement outlined below and incorporates key findings for effective stakeholder engagement identified by scholars like Reed.

I. Identification of Goals

The first step of stakeholder engagement is to identify and define the goals of the engagement. Scholars in the field have emphasized the need to define the desired outcomes of engagement to ensure effective practices (Reed, 2008; Mease et al., 2018). Figures 2, 3, and 4 describe variations of types of goals practitioners can create when beginning their engagement process. As the figures progress, they become more simplified, with fewer distinct goals. The first figure, Figure 2, identifies five main goals for engagement and was adapted by Bammer (2022) from the International Association for Public Participation (IAP2). These goals include informing, consulting, involving, collaborating, and empowering. The next figure, Figure 3, adapted from Mease et al. (2018), is similar but includes goals for both practitioners of engagement and stakeholders themselves. Practitioner goals consist of informing, consulting, collaborating, and empowering, whereas stakeholder goals consist of learning and understanding, influencing, collaborating, and deciding, respectively. The last figure, Figure 4, adapted from Rowe and Frewer (2005), identifies three main categories of goals, communication, consultation, and co-creation. It also describes the flow of information between stakeholders and practitioners in each type of engagement. This is to say that practitioners involved in planning and conducting stakeholder engagement have a variety of goals to guide their engagement strategies.

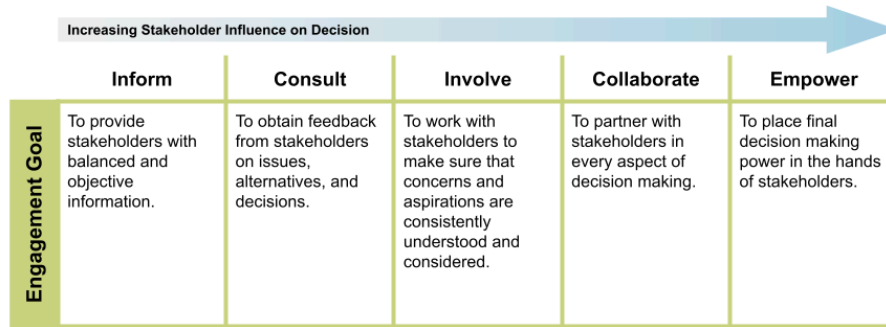


Figure 2: Stakeholder Engagement Spectrum of Goals (Adapted from Bammer, 2022; International Association for Public Participation, 2018; Arnstein, 1969)

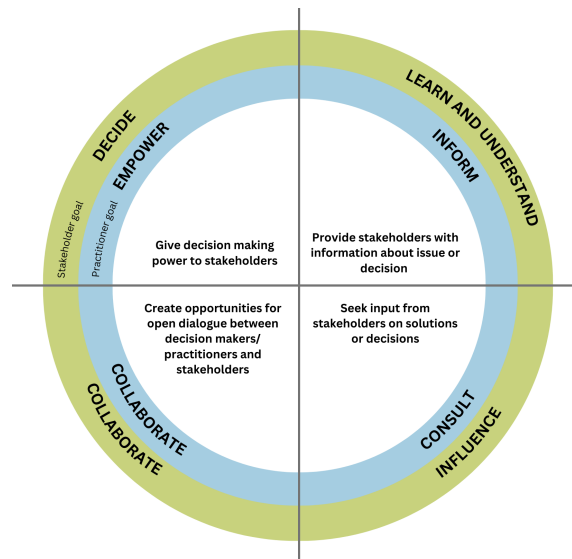


Figure 3: Stakeholder Engagement Goals Circle (adapted from Mease et al., 2018)

	Communication	Consultation	Co-Creation
Definition/ Goals	<ul style="list-style-type: none"> Inform stakeholders of research and decisions Improve knowledge or awareness of an issue 	<ul style="list-style-type: none"> Collect input from stakeholders regarding views, attitudes, perceptions, concerns, and suggestions 	<ul style="list-style-type: none"> Collaborate with stakeholders to create solutions or knowledge together
Direction of Information	Researcher ↓ Stakeholder	Researcher ↑ Stakeholder	Researcher ↕ Stakeholder
Activities	<ul style="list-style-type: none"> Posters at public events Science museum exhibits Community outreach activities 	<ul style="list-style-type: none"> Surveys Interviews Focus groups 	<ul style="list-style-type: none"> Collaborative working groups Conferences Advisory boards Partnerships

Figure 4: Stakeholder Engagement Goals Chart (adapted from Rowe and Frewer, 2005)

II. Identification and Recruitment of Stakeholders

Literature related to stakeholder engagement has shown that having a deliberate and inclusive approach to identifying stakeholders will help improve the outcomes of engagement (Reed et al., 2009). Additionally, without a clear, targeted identification of stakeholders, goals and priorities can become diluted or misdirected (Mitchell and Lee, 2019). It is also important to note here that going beyond the “usual suspects,” considered to be individuals and groups that are identified most frequently for engagement, can help lead to more comprehensive and productive results (Colvin et al., 2016; Reed, 2008). Key scholars have identified a multitude of methods that practitioners may use to identify stakeholders, outlined in Figure 5.

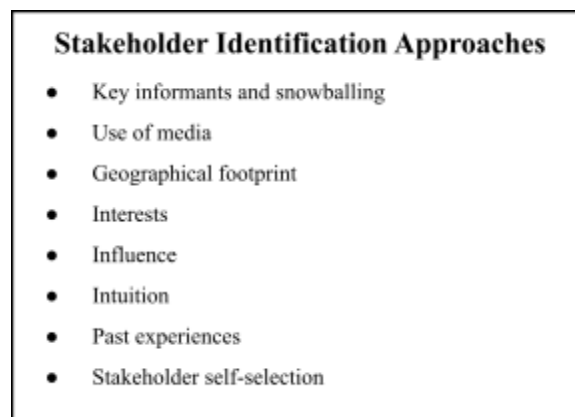


Figure 5: Stakeholder Identification Approaches (adapted from Colvin et al., 2016)

Colvin et al. (2016) identifies a few key ways that stakeholders can be identified in the stakeholder engagement process, particularly in natural resource contexts. These methods are outlined in Figure 5 and can be utilized to create an effective approach for identifying stakeholders. As defined by Colvin et al. (2016), “key informants and snowballing” allow for stakeholders and experts to recommend other stakeholder participants who are experts within their field or may be included in their professional network. The “use of media” may include reviewing publicly available literature, news publications, census data, or blog posts to identify stakeholders relevant to the project. “Geographical footprint” defines the geographical area of an issue or project to identify stakeholders that are physically close to the issue. “Interests” analyzes the different interested parties as a result of a particular issue to identify stakeholders.

“Influence” assesses the individuals and groups that have the power to influence the issue or decision, including those with decision-making power as stakeholders. “Intuition” allows practitioners to use their knowledge and understanding of the issue to identify stakeholders. “Past experiences” relies on reflecting on experiences and relationships to inform the identification of stakeholders. Lastly, “stakeholder self-identification” allows stakeholders to nominate themselves for engagement, whether it is approaching the practitioner or responding to a general advertisement sent out by a practitioner.

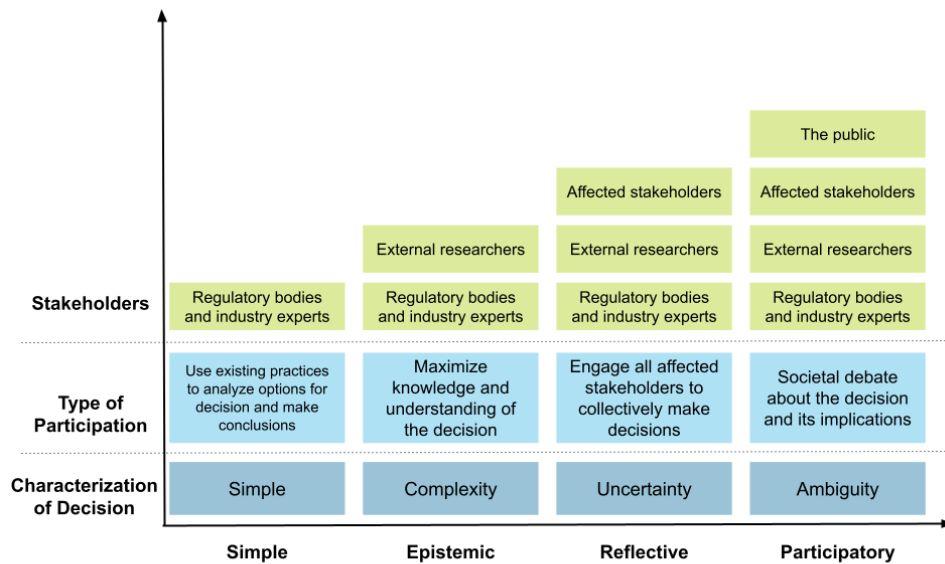


Figure 6: Stakeholder Participation Matrix (adapted from IRGC (2005))

It is important to note that while many stakeholders may be identified, understanding the context in which one is operating is crucial to identifying the key stakeholders necessary for the project or decision. The IRGC (2005) matrix describes how increasing the complexity of an issue requires more stakeholders and more involved forms of engagement, with simple decisions requiring the fewest stakeholder groups, and ambiguous decisions requiring the most stakeholder groups.

This step in the process also includes “stakeholder analysis,” where organizers seek to understand their stakeholders and the most impactful ways of engaging them. The use of this analysis in sustainability and natural resource contexts was pushed because of initiatives that failed to understand the dynamics of stakeholders and were unsuccessful as a result (Reed et al.,

2009). In stakeholder engagement processes, it is not only important to identify the individuals and groups that “have a stake” in the decision or process but also to understand their “behavior, intentions, interrelations, agendas, interest, and influence” related to decision-making processes (Brugha and Varvasovszky, 2000). Within this analysis, it is important to reflect on the best ways to reach stakeholders as well. Practitioners may consider more unconventional methods of recruiting stakeholders if their analysis shows those methods are the most effective for reaching out to that particular group of stakeholders (Garrison et al., 2021). Understanding stakeholder perspectives and interrelationships may help inform more effective stakeholder engagement strategies (Reed et al., 2009).

III. Formation of Engagement Plans

Once the necessary stakeholders have been identified and goals have been defined, engagement practitioners may identify the most effective methods or activities to involve stakeholders in their specific context. As described by Rowe and Frewer (2005), engagement activities may be grouped based on varying typologies, but the typology described is meant to group mechanisms based on the goals or “types” of engagement. Figure 4, adapted from Rowe and Frewer (2005), describes just a few of the mechanisms for engagement described in the article as they relate to the different types of engagement. Communication-based engagement may include activities such as posters at public events, science museum exhibits, community outreach events, and social media posts. Consultation-based engagement may include surveys, interviews, and focus groups. Lastly, co-creation-based engagement may include collaborative working groups, conferences, advisory boards, and partnerships.

Table 1: How to Choose an Engagement Strategy (adapted from OECD, 2004)	
Inform when:	Factual information is needed to describe a decision, but the decision has already been made; the public needs to be informed of the results of a process; the issue is simple; crisis response
Consult when:	Information gathering is needed to better understand an issue; decisions are still being shaped
Involve when:	Two-way information exchange is needed to assess an issue and

Table 1: How to Choose an Engagement Strategy (adapted from OECD, 2004)	
	evaluate options; there is an opportunity to influence the final outcome; discussion may shape the decision or outcome
Collaborate when:	Stakeholders need to talk with each other due to the problem being complex; there is an opportunity for stakeholders to shape decisions or outcomes; time is allowed for deliberation and conversation
Empower when:	There is a need for stakeholders to become managers of the process or decision; stakeholders want to develop and implement solutions themselves

The Organization for Economic Cooperation and Development (OECD) (2004) created a useful table to help practitioners decide when different types of engagement should be used. These considerations are outlined in the adapted Table 1 above. It describes when to use the different types of engagement, inform, consult, involve, collaborate, and empower, outlined in the previous section.

IV. Conduct Engagement

In many cases, conducting the engagement is simply ensuring that all necessary materials are prepared ahead of time including developing information materials that can be understood by stakeholders, implementing data-gathering techniques like surveys or interviews, and organizing events or opportunities for higher levels of engagement (OECD, 2004). When implementing engagement activities it is important to acknowledge the potential barriers to participation for stakeholders. It is not enough to provide stakeholders with the opportunity to participate, they must be able to actually participate in the engagement (Reed, 2008; Weber and Christopherson, 2002).

V. Collect and Interpret Results

Different forms of engagement will ultimately yield different results that can be used to better understand an issue or implement decisions. For example, when using an information-based engagement strategy, an engagement organizer might analyze results surrounding how many people viewed or engaged with an educational resource. They may also

assess comments and questions on the material to analyze whether the materials were effective in meeting their intended goals. Alternatively, consultation-based engagement may rely on analyzing results from interviews, surveys, or focus groups. Engagement organizers may be seeking to understand stakeholder perceptions of an issue to inform quality decision-making that positively impacts stakeholders. Lastly, deliberation-based engagement may provide results through meeting notes or recordings to identify key themes from discussions (Garrison et al., 2021). In many cases it is important to be able to analyze and report on these results as many funders value stakeholder-engaged research, and may look for these results in reports on projects (Martinez et al., 2019).

VI. Reflect on Engagement

Reflecting on engagement allows practitioners to identify successes and failures within the engagement process and improve engagement processes in the future. Reflection is also a key principle in responsible research and innovation (RRI) principles, commonly cited in many research contexts to help researchers better understand their motivations and the potential implications of the research. This principle can be utilized in stakeholder engagement contexts to encourage practitioners to reflect on how engagement results may impact the decision or issue (Owen and Pansera, 2019). This process may include evaluating engagement processes. Some examples of assessments that can be used to evaluate stakeholder engagement include surveys or interviews of stakeholders to get feedback on engagement processes, open dialogue between stakeholders and practitioners throughout the engagement process, focus groups assessing engagement strategies, and engagement logs that keep track of stakeholder attendance and comments (Martinez et al., 2019). More considerations for evaluating and reflecting on engagement are explored in subsequent sections focusing on measuring success within engagement.

1.6 Key Considerations for Effective Engagement

Despite stakeholder engagement being considered incredibly valuable in sustainability contexts, there are often times when engagement does not meet the needs established by stakeholders and practitioners and is not effective in meeting the goals of the project. Many times this is due to not considering the barriers, challenges, and other key considerations of

engagement (Sloan and Oliver, 2013; Reed et al., 2017). Experts in stakeholder engagement have outlined key principles that guide engagement practices to be more effective including trust and relationship building, inclusive practices, and understanding the drivers of successful engagement (Mease et al., 2017; Reed, 2008).

Building Trust

Many researchers have recognized the crucial role of trust and relationship-building in effective stakeholder engagement strategies (Ansell and Gash, 2008; Mease et al. 2017; Sloan and Oliver, 2013). Although there is no standard definition of “trust” in engagement literature, it is sometimes described as having three key aspects of “integrity”: 1) the belief that an organization is fair and just; 2) dependability: the belief that an organization will do what it says it will do; and, 3) competence: the belief that an organization has the ability to do what it says it will do (Hon and Grunig, 1999). The process of building trust requires building and maintaining confidence, reliability, and positive relationships between the individuals and groups involved in an engagement process (Morgan and Hunt, 1994; Castaldo et al. 2010). It also relies on key principles that guide trust building including, involving stakeholders early and often throughout the process, humanizing all parties involved, and being transparent (Mease et al. 2017).

It has been noted that trust within engagement processes involves engaging stakeholders early and often throughout a decision-making process (Elwy et al., 2022; Mease et al., 2017). By offering more opportunities for stakeholders to share perspectives and engage in open dialogue early in the process, practitioners and managers may be able to more easily define the problem, identify key issues, and encourage stakeholder buy-in (Mease et al., 2017).

It was also noted by Mease et al. (2017), that building relationships not only between practitioners and stakeholders but between stakeholders themselves is an important part of the trust-building process. Creating opportunities for interested parties to communicate and converse is a simple strategy to humanize the individuals involved, which in turn, reduces conflicts and builds trust.

One of the most important factors outlined in the literature regarding trust is to ensure transparency through open and honest communication between stakeholders and practitioners of engagement (Garrison et al., 2021; Mease et al., 2017; Reynolds and Yuthas, 2008). Mease et al. (2017) emphasizes that it is not simply about making information available to stakeholders, but

ensuring that stakeholders understand and acknowledge the information and goals of the project, as well as their role and the extent to which they are involved in the decision-making process.

Encouraging Diversity and Inclusion

Including diverse stakeholders can lead to many benefits including more just, fair, and equitable outcomes, practical and relevant decisions, and capacity building (Reed 2008; Reed et al. 2009; Mease et al., 2017). Although including a diversity of stakeholders throughout the process is important, it is also crucial to ensure that engagement practices are inclusive of diverse perspectives (Mease et al., 2017). The marginalization or exclusion of stakeholders can ultimately harm decision-making processes (Turner and Weigner, 2005).

Steps that practitioners may take to encourage diversity and inclusion in their engagement process include integrating diversity and inclusion throughout engagement processes, outreach to underrepresented groups, and accessible materials. Inclusive practices can be utilized throughout the engagement process, whether in the identification of participants, the selection of activities, or the implementation of engagement strategies (Reed et al., 2009; Richards et al., 2004; Stilgoe et al., 2013). It is important, especially when engaging with underrepresented groups that engagement materials are accessible to include diverse stakeholders. To be accessible, engagement managers need to understand their stakeholders and be able to make decisions about the most effective ways to interact with them (Franklin, 2020). This may involve translating documents to languages that stakeholders commonly speak, making scientific language more digestible, or offering language that is appropriate for the local context in which the project is operating (Heinisch, 2021; Chemonges Wanyama et al., 2020).

Measuring Success

Evaluation of stakeholder engagement processes and understanding of success and failures will ultimately define best practices not only for specific organizations and contexts but also for other practitioners (Reed, 2008). Stakeholder engagement always involves a risk that goals or desired outcomes will not be achieved, but risks may be mitigated through reflection and documentation of successes and failures (Garrison et al., 2021). Reed (2008) explains using the extent to which those engagement goals were achieved as a measure of success. A more thorough review of existing literature by Blackstock et al. (2007) identifies 21 unique criteria for

evaluating participatory research that can be applied to stakeholder engagement contexts as well. These criteria include access to resources, accountability, capacity building, capacity to influence, capacity to participate, leadership, conflict resolution, context, cost-effectiveness, developed a shared vision or goals, emergent knowledge, legitimacy, opportunity to influence, ownership of outcomes, quality of decision making, quality of information, recognized impacts, relationships, representation, social justice, social learning, and transparency. Many of these correlate directly to the benefits of engagement, the process of engagement, and the challenges of engagement, therefore evaluating these criteria may help capture the core pieces of engagement and inform more effective engagement in the future.

It is important to note in this section that there is potential for “success” bias where only successful engagement results are written and shared. It is important to understand unsuccessful cases in addition to the successful ones to improve engagement efforts in the future. Additionally, it is important to note that success can have a variety of definitions depending on the context and the practitioners that define it (Beierle, 2002).

1.7 Challenges and Barriers to Effective Engagement

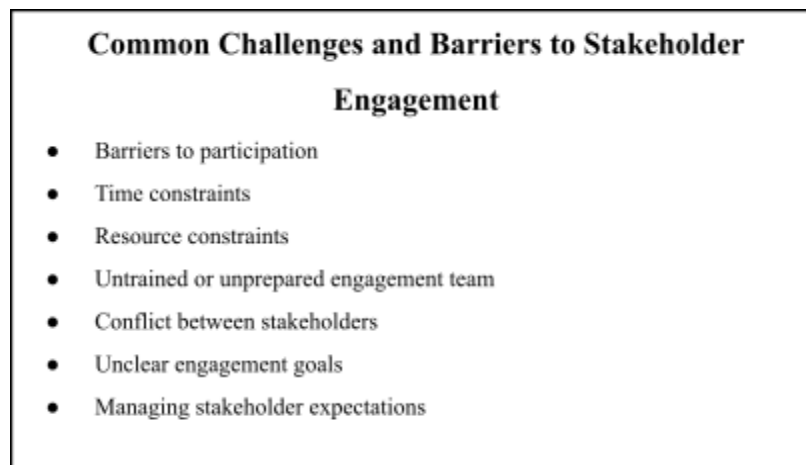


Figure 7: Common Challenges and Barriers to Stakeholder Engagement

Based on currently available literature, there are very few studies that have comprehensively documented the practical challenges of planning and conducting stakeholder engagement. Mease et al. (2017) is the most relevant piece of literature identified, interviewing practitioners of stakeholder engagement in natural resource contexts to understand frameworks

that practitioners are using for stakeholder engagement. The authors briefly mention challenges that practitioners have faced as well as potential metrics to define success in engagement, but its core findings relate to engagement frameworks. Other studies, including those described in the following subsections, offer general challenges that are more theoretical in nature and offer limited perspectives from real-world scenarios. After combing through the literature, 7 key themes emerged as potential theoretical challenges of engagement. These key themes are outlined in Figure 7 and expanded on in the following subsections.

Barriers to Participation

In many cases, when stakeholders are recruited, most often through self-selection processes, only the most interested, organized, and available stakeholders tend to participate in engagement activities. For example, public hearings and community meetings may only attract a small subset of necessary stakeholders who are organized and able to meet at the scheduled times (National Academies of Sciences, Engineering, and Medicine, 2016). Alternatively, some stakeholders may be approached too often for engagement efforts or do not feel as though engagement processes have enough impact or meet the needs of stakeholders, in a phenomenon called “consultation fatigue.” This can also prevent important stakeholders from participating in engagement efforts (Richards et al., 2004). When there are too many barriers to participation, whether it be time constraints, fatigue, or engagement activities not being convenient, this excludes key stakeholders and limits representation from a diversity of stakeholders.

Time Constraints

A key constraint described by many scholars in the field is time, whether it is regarding time scarcity or the most appropriate time to conduct engagement (Cotrell et al., 2015; National Academies of Sciences, Engineering, and Medicine, 2016; Kleinman et al., 2011). Interviews conducted by Cotrell et al. (2015) recognized time as a key challenge to engaging stakeholders within systematic review processes, stating that engaging stakeholders “requires a significant investment of time, especially if it is to be done well.” Additionally, time constraints may include stakeholders finding it difficult to find time to participate in lengthy engagement processes (Kleinman et al., 2011; Schlozman et al., 1999; Cheng and Mattor, 2006). Lastly, the literature surrounding building trust with stakeholders cites that time is a key factor in trust building, but if

that time is unavailable, it can be difficult to effectively engage stakeholders (Ansell and Gash, 2008).

Resource Constraints

It is important while incorporating stakeholder engagement into projects and decisions not to assume that these processes are always inexpensive and will be successful with minimal effort and funding. Many types of stakeholder engagement activities will be costly, and require investments to implement effectively (Garrison et al., 2021). Because of stakeholder engagement's naturally iterative process, it can be difficult to establish a budget upfront, but failures in engagement processes are often due to a lack of resources being devoted to the desired engagement activity (Richards et al., 2004). Practitioners should be aware of the resources they have available for stakeholder engagement processes, and think carefully about the options that are best suited for their specific context (Kleinman et al., 2011).

Untrained or Unprepared Engagement Team

Engagement may fail when the engagement activity requires certain skills from leaders and organizers including facilitation and communication. Engagement practitioners should be trained on important skills for engaging with stakeholders or allow for funding in the budget to hire trained facilitators to lead discussions (Garrison et al., 2021; Haddaway et al., 2017; Ansell and Gash, 2008). Specifically, when conflicting perspectives arise between stakeholders it is important that there is a trained facilitator that can mediate conflicts (Haddaway et al., 2017).

Conflict Between Stakeholders

It is not uncommon for conflicts between stakeholders to arise and limit desired outcomes of engagement or cause engagement to fail (Haddaway et al., 2017). A history of conflict between stakeholder groups, especially when engagement lacks trained facilitators, may also hinder outcomes (Richards et al., 2004). It is also important to note here that polarization of sustainability issues may result in diverging understandings of issues and cause conflicts between certain groups of stakeholders (Gualtieri and Lurati, 2024).

Unclear Engagement Goals

As explained in the “Identification of Goals” section, identifying and establishing goals at the beginning of the engagement process is crucial for successful engagement, and many times when practitioners experience challenges or failures it is due to unclear or nonexistent engagement goals (Haddaway et al., 2017; Reed, 2008; Arnstein, 1969; Mease et al., 2017; Richards et al., 2004). It is also possible that engagement goals may be unrealistic and also result in challenges or failure (Richards et al., 2004).

Managing Stakeholder Expectations

Oftentimes, especially during flexible discussions where stakeholders can share ideas, participants ultimately create a “wish list” and set unrealistic expectations of the outcomes of the engagement. Engagement managers then feel unable to deliver on the expectations of stakeholders, motivating distrust of practitioners from stakeholders (Richards et al., 2004).

1.8 Conclusion

This chapter aimed to provide an overview of the best practices identified in the literature and key challenges practitioners face. Overall, key challenges identified in the literature include barriers to participation, time constraints, resource constraints, untrained or unprepared engagement teams, conflicts between stakeholders, unclear engagement goals, and managing stakeholder expectations. Based on this information, the next chapter aims to document the real-world experiences of practitioners of stakeholder engagement in sustainability fields to gain a more comprehensive understanding of the approaches and challenges to engagement.

CHAPTER 2: EXPERIENCES OF STAKEHOLDER ENGAGEMENT PRACTITIONERS

2.1 Introduction

The purpose of this chapter is to document the experiences of practitioners of stakeholder engagement in sustainability contexts. As described in the previous chapter, researchers have cited that ineffective stakeholder engagement can lead to undesired outcomes that do not address the complex issues sustainability experts face (Reed et al. 2017). At the same time, there are limited studies that have documented the challenges faced by engagement practitioners. Therefore, there is a need within the body of literature on engagement to explicitly document the challenges and barriers to engagement faced by researchers and practitioners, especially those working in sustainability contexts. By combining surveys and interviews, this research captures experiences on both a broad scale, through numerous survey participants, and in greater depth, through a smaller group of interview participants. Additionally, by documenting the significance of certain challenges and barriers to effective stakeholder engagement, we can make informed recommendations for improving the engagement process.

According to the current body of literature that is published, there are very few studies that have documented challenges to conducting stakeholder engagement. Mease et al. (2017) most closely aligns with the goals of this project, interviewing practitioners of stakeholder engagement in natural resource contexts to understand frameworks that practitioners are using for stakeholder engagement. The authors briefly mention challenges that practitioners have faced as well as potential metrics to define success in engagement, but its core findings relate to engagement frameworks. Other research in this field has focused on specific sectors or areas of expertise to document stakeholder engagement processes and key challenges (Cottrell et al. 2015; Mease et al. 2017). Additional studies have also provided regional case studies or interviews related to “lessons learned” from engagement processes (Agyekum et al. 2023; Bouamrane et al. 2016; Huzzard 2021; Kaur et al. 2019; Masefield et al. 2021). This Master's research study aims to provide experiences from a broader perspective, involving practitioners from many different fields that all fall under the umbrella of sustainability.

2.2 Methods

This chapter uses a mixed-method approach to understand the challenges and barriers practitioners face when conducting stakeholder engagement. The first part relies on a survey, distributed to U.S. practitioners and researchers of stakeholder engagement in sustainability contexts, consisting of multiple choice, Likert scale, and open-ended questions to gain a high-level understanding of trends. The trends identified in the survey then informed semi-structured interview questions that provide a more detailed understanding of specific challenges. The survey was meant to capture many perspectives broadly, while the interviews capture a smaller group of perspectives to understand why those trends occur.

2.2.1 Survey Participant Identification and Outreach

To meet the goals of the study, a diverse set of practitioners and researchers in stakeholder engagement from various disciplines and sectors in sustainability contexts were identified. Participants were identified through various channels including publicly available literature, conference and seminar programs, staff information on websites, and professional networks. Targeted individuals were US-based engagement experts in a variety of sectors including government, academia, extension, NGOs and advocacy groups, consulting, and industry. In total, 526 potential participants were identified. Emails were collected for each potential participant, and an email was sent to each participant that included the link to the survey. The outreach email included a brief overview of the project, approximately how long it would take, and the response period. Prior to reaching out to the participants, a review of the materials was completed by the North Carolina State University IRB (IRB Protocol #27444) and was marked exempt.

2.2.2 Interview Participant Identification and Outreach

Within the survey, participants were given the option to voluntarily provide their contact information if they were interested in participating in a follow-up interview. Interview participants were identified exclusively through the responses to this question, and ten participants were selected for interviewing. From the contacts provided, participants were selected to capture a diverse set of disciplines and backgrounds. Discipline, expertise, and sector were all considered in the selection process.

An outreach email was sent to the selected participants containing a Hubspot link to request an interview time. The outreach email also included a brief reminder of the project and its purpose, as well as the length, risks, and benefits of the interview. Interviews lasted 30 to 60 minutes. The interview period lasted from December 16th, 2024 to January 31st, 2025. A consent form was also created to ensure participants understood the interview process and that interviews would be recorded. Consent forms were emailed to participants, and they were asked to review the form prior to their scheduled interview time. They were given the opportunity to ask questions through email or over the video call and asked to return a signed consent form before the start of the recording. Interviews were conducted exclusively using Zoom to ensure that participants who were not local were able to fairly participate. Prior to outreach and conducting interviews, a review of the materials was completed by the NC State University IRB and marked exempt.

2.2.3 Survey Development

The survey was developed using the online survey platform, Qualtrics, provided by NC State University. The survey was conducted anonymously, with the exception of the option to provide an email address to participate in a follow-up interview. There were minimal risks to participating in the survey and no identifying information is to be shared within the results and analysis sections. A combination of multiple-choice questions, Likert scale questions, and open-response questions were used to understand familiarity, confidence, and challenges related to stakeholder engagement practices in sustainability contexts. Participants were also asked to provide demographic and background information. In total, participants were asked to complete 22 questions related to their experiences as stakeholder engagement practitioners. An overview of the questions asked is provided in Table 2, and a complete list of survey questions and response options is provided in Appendix A.

Participants were asked questions about their familiarity with stakeholder engagement (Q1-Q5, Table 2) to ensure the target audience was reached. The goal was to identify participants who had familiarity and experience with planning and conducting stakeholder engagement activities. The next set of questions asked participants about their confidence related to planning and conducting stakeholder engagement activities, specifically how their organization's and their personal confidence compared (Q6-Q7). This was meant to understand whether challenges and barriers to engagement were related to personal ability or organizational ability. The core section

of the survey was related to documenting challenges and barriers participants have experienced (Q8-Q15). This section utilized a matrix Likert scale to ask participants to describe how significant the challenges identified from the literature were, as well as how they have addressed these challenges. Respondents were also given the opportunity to describe additional challenges that they had experienced.

Table 2: Survey Questions

Category	Survey Questions
Familiarity	<ol style="list-style-type: none"> 1. How familiar are you with the concept of stakeholder engagement? 2. In your own words, how would you define stakeholder engagement? 3. Have you engaged stakeholders or do you plan to do so? 4. How satisfied were you with the activities you planned and implemented? 5. Please describe the engagement activities or processes you planned or implemented. In this description, please include which types of stakeholder groups you engaged (e.g. government officials, NGOs, the public) and what activities were planned or conducted (e.g. focus groups, surveys, workshops, education). Please do not include the names of the specific people or organizations you engaged or worked with.
Confidence	<ol style="list-style-type: none"> 6. What is your level of confidence in your own personal ability to plan and conduct stakeholder engagement? 7. What is your level of confidence in your organization's ability to plan and conduct stakeholder engagement activities?
Challenges	<ol style="list-style-type: none"> 8. Thinking about the engagement activities you have conducted or planning to conduct, how significant are each of the following challenges to your engagement work, if at all?

Table 2: Survey Questions

	9. Are there any other challenges you have identified in your work that are not listed in the previous question?
	10. Thinking about the challenges you described in the previous question, have you taken any steps to address these challenges?
	11. If you indicated yes in the previous question, please describe how you addressed or plan to address these challenges.
	12. Based on your previous responses, why were the steps taken to address these challenges either successful or unsuccessful?
	13. In general, what do you need to more successfully engage stakeholders in your work?
	14. Do you have any additional thoughts you would like to share with us about your experiences with engaging stakeholders?
	15. If you would be interested in participating in a follow-up interview, please include your email address here:
Demographics	16. What is your primary affiliation?
	17. What is your secondary affiliation, if any?
	18. What is your role in your organization(s)?
	19. What is your area(s) of expertise?
	20. Which best describes your gender?
	21. What is your age?
	22. Which best describes your race/ethnicity?

2.2.4 Interview Development

Interviews were conducted by following an interview guide that included six main questions with potential follow-up questions based on participant responses. The goal in creating these questions was to expand on the questions and responses from the survey. The interview questions were meant to identify more specific constraints based on survey results, document anecdotal experiences reflecting on challenges in engagement, understand why some challenges

may be more significant than others, examine what people and organizations are doing to actively address their engagement challenges, and gain perspectives on how to improve stakeholder engagement processes. The main questions from the interview are listed in Table 3, and the full interview guide may be found in Appendix B.

Table 3: Interview Questions

Interview Questions

1. Can you tell me a little bit about your background?
 2. Can you tell me about your experience planning and conducting stakeholder activities?
 3. From your perspective, what are the most significant challenges you experience when planning and conducting stakeholder engagement? If there are many, please talk about the top two or three.
 4. What are you and your organization doing to actively address the challenges you identified?
 5. Have you and your organization developed or used metrics to measure success within stakeholder engagement processes?
 6. Are there any other comments you would like to make on the topics we've covered today? Is there anything we haven't asked you that you think we should?
-

2.2.5 Survey Dissemination and Participants

Study participants were given a direct link to access the survey in the outreach email that was sent to them. The survey response period lasted from October 1st, 2024 to October 21st, 2024. In this timeframe, reminder emails were sent on October 8th, 16th, and 21st, 2024. Following the last day of the response period, the survey was closed and participants were no longer able to access the survey. Before responding to the survey, survey participants were required to provide consent to participation. The pre-survey text and consent questions are detailed in Appendix A.

The survey was distributed to a total of 526 individuals, with 27 individuals being removed following the initial outreach because outreach emails were unable to be delivered. A

total of 499 individuals were successfully contacted, and 149 filled out the survey. Out of these responses, 28 were removed due to incomplete responses or having a high score on the ReCaptcha bot detection embedded in the survey. This led to 121 responses being considered valid and part of the sample size of this survey. Based on these responses, the response rate before data cleaning was 28%, and the response rate after cleaning was 24%.

2.2.6 Interview Participants and Protocol

Interview participants were selected from a list of responses to the question “If you would be interested in participating in a follow-up interview, please include your email address here:” Overall, 43 respondents left contact information for a follow-up interview. From these 43, 10 were selected for interviews based on their area of expertise and affiliation, in order to have a full range of experiences. Through three rounds of outreach emails, each giving participants roughly a week to schedule an interview, four participants out of the original 10 selected did not choose to participate and new participants that had similar experiences and backgrounds were selected. Interviews were conducted between December 18th, 2024, and January 28th, 2024.

2.2.7 Data Analysis

A variety of applications were utilized to analyze the different types of data. Initial survey results were exported from Qualtrics to Excel to create graphs, visualizations, and basic statistical calculations. Multiple-choice and Likert-scale questions were analyzed for distribution and percentages. Visualizations were created to represent these distributions and percentages across the quantitative data collected. Open-ended responses were analyzed through qualitative coding of responses, grouping responses into relevant categories. These categories were identified through the literature review and reading through open-ended responses.

Interviews were conducted via Zoom and transcripts of the interviews were provided. These transcripts were checked and edited for accuracy before being uploaded to NVivo for qualitative analysis. The analysis was completed using a combination of deductive and inductive thematic analyses. This means it relied on both information from the literature review and survey trends to identify a small set of codes, while also allowing for additional codes to be added throughout the analysis to allow for additional and more comprehensive themes to emerge. Overall, a total of 125 codes were identified, with four parent codes that represent the

engagement process, challenges and barriers, addressing challenges, and measuring success. The child codes and specific themes are explored in the results section below.

2.3 Results

As shown in the sections below, the results of this survey shed light on the various approaches used by survey participants to conduct engagement, key challenges and barriers participants face, participant-proposed solutions to those challenges, and how practitioners define success within their engagement processes. Overall, this section showcases the diverse perspectives of engagement practitioners within the context of sustainability through interview and survey results.

2.3.1 Survey Respondent Information

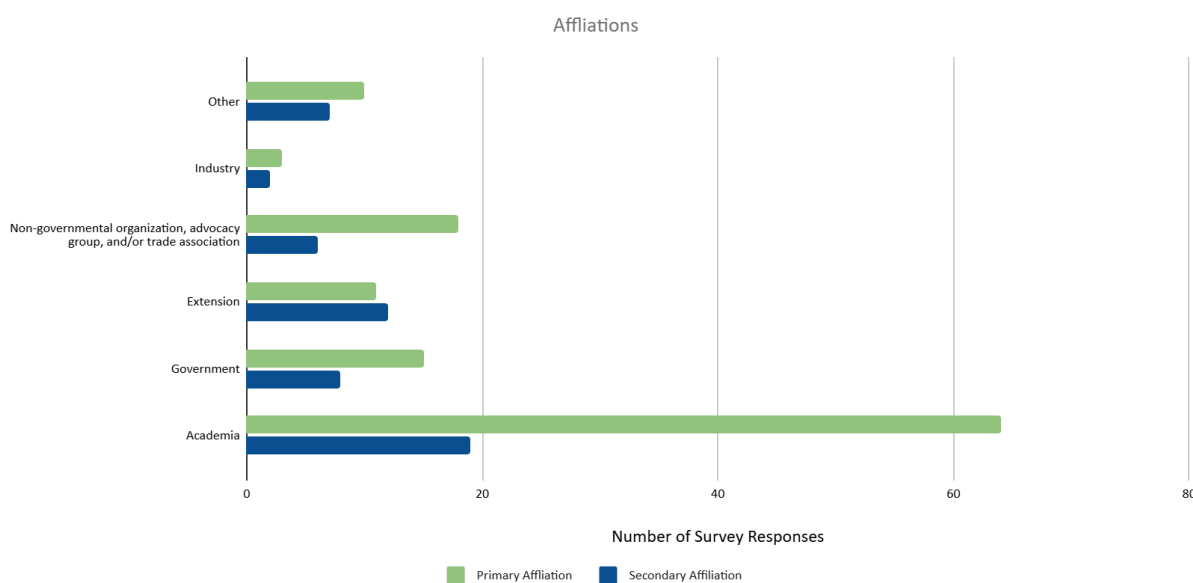


Figure 8: Participant Affiliations (Survey)(N=121)

Among the participants surveyed, the largest percentage, 53% of participants (n=64 responses), identified their primary affiliation as academia. This was followed by NGOs / advocacy groups and/or trade associations, government, extension, industry, and other. The lowest percentage of respondents, 2.5% (n=3 responses) identified industry as their primary

affiliation. Respondents that labeled their primary affiliation as “other” included educators, private/non-profit researchers, and consultants.

Additionally, participants were prompted to report their areas of expertise through an open-ended question. This allowed respondents to freely express the diverse range of disciplines and expertise they represented. Of these responses, there were 180 unique disciplines reported, with many respondents describing interdisciplinary expertise. The most commonly reported areas of expertise related to sustainability, communication, environmental science and engineering, agriculture, climate, social science, natural resources, and policy.

Participants represented a range of practitioners, from those very early in their careers to those who were retired professionals. The highest percentage of respondents identified themselves as 35-44 (28%, n=35 respondents). This is then followed by 45-54, 25-34, 65 or older, and 55-64. The fewest respondents identified themselves as 18-24, with a percentage of 0.83 (n=1 respondent). A chart and table representing this data can be found in Appendix C.

Overall, the participant data analyzed shows a diversity of perspectives in different disciplines, sectors, and points in their careers. Furthermore, respondents were the target audience of the survey, those with experience and confidence in planning and conducting stakeholder engagement.

2.3.2 Interview Respondent Information

The distribution of interview participants included three from academia, two from government, two from an NGO/advocacy group, two from private sectors, and one from extension. Areas of expertise among participants included marketing and communications, climate change adaptation, urban planning, science communication, environmental economics, policy and regulatory development, non-profit management, coastal resilience, and environmental health. Interviewees had ranges of experience from roughly 10 to 40 years of experience in stakeholder engagement.

2.3.3 Familiarity and Confidence of Survey Participants in Engaging Stakeholders

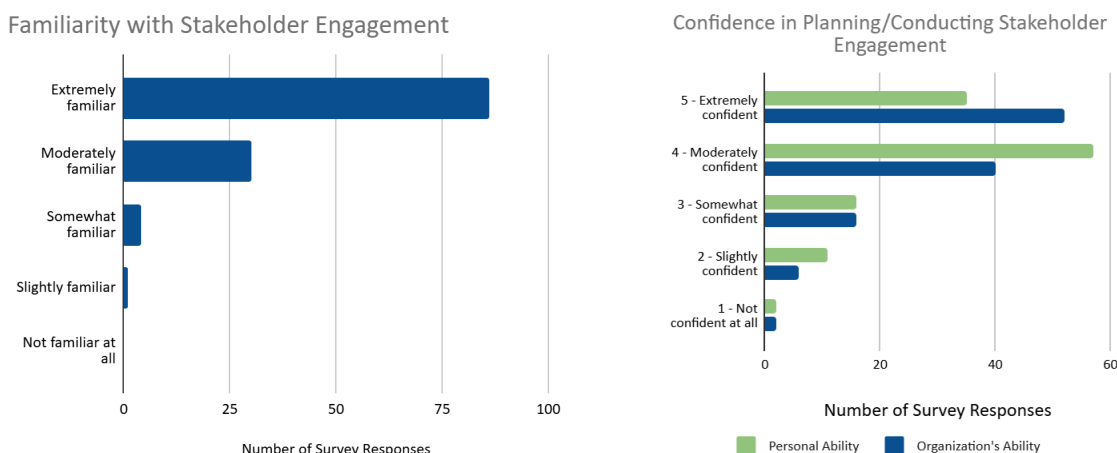


Figure 10.A: Participant Familiarity with Stakeholder Engagement (Survey)(N=121)

Figure 10.B: Confidence in Planning and Conducting Stakeholder Engagement (Survey)(N=121)

Among survey participants, 71% (n=86 respondents), the vast majority, identified themselves as “extremely familiar” with the concept of stakeholder engagement. The next highest number of responses (25%, n=30 respondents) identified themselves as “moderately familiar” with the concept of stakeholder engagement. Very few respondents labeled themselves as “somewhat familiar” or “slightly familiar” ($n_{\text{somewhat familiar}}=4$, 3.3%; $n_{\text{slightly familiar}}=1$, 0.83%). No respondents labeled themselves as “not familiar at all.”

Additionally, participants were generally confident in both their personal and their organization’s ability to plan and conduct stakeholder engagement. Referring to their organization, the highest number of respondents described being “extremely confident” (n=52 respondents, 43%). Comparatively, when referring to their personal ability, the highest number of respondents reported they were “moderately confident” in their ability to plan and conduct stakeholder engagement (n=57 respondents, 47%).

It is important to note here that interview respondents were not asked equivalent questions to these, so there is no comparison data between interview and survey respondents related to their confidence and familiarity with planning and conducting stakeholder engagement.

2.3.4 The Stakeholder Engagement Process

The following subsections identify the methods used, stakeholder groups involved, and processes for developing engagement goals as described by survey and interview participants. Overall, participants identified a diversity of different stakeholders, activities, and goals that guide their engagement processes.

Stakeholder Engagement Activities Identified by Survey

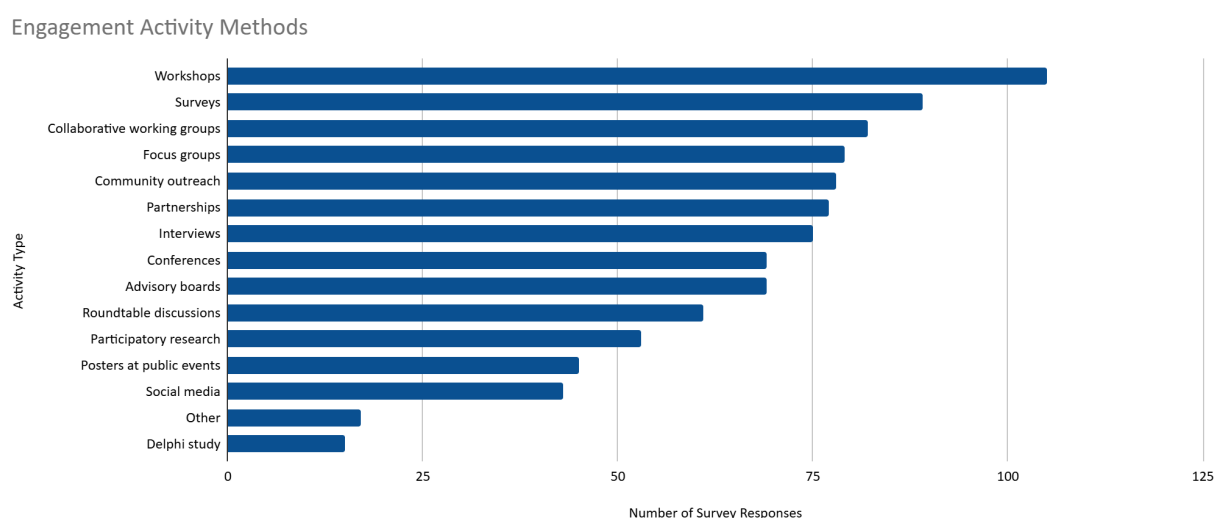


Figure 11: Distribution of Engagement Activities Selected by Participants (Survey)(N=121)

When asked to report on which engagement activities the survey participants used in their engagement work, workshops were identified as the most commonly used engagement method, with 86.8% of respondents selecting this option (n=105 responses). Other common responses included surveys (n=89 responses, 73.6%), collaborative working groups (n=82 responses, 67.8%), focus groups (n=79 responses, 65.3%), community outreach (n=78 responses, 64.5%), partnerships (n=77 responses, 63.6%), and interviews (n=75 responses, 62.0%). Meanwhile, Delphi studies were identified as the least commonly used engagement method, with 12.4% of respondents selecting this option (n=15 responses). Respondents who selected “other” indicated methods such as public hearings or meetings, field trips, informal conversations, lobbying, and live technology demonstrations.

Stakeholder Engagement Activities Identified by Interviews

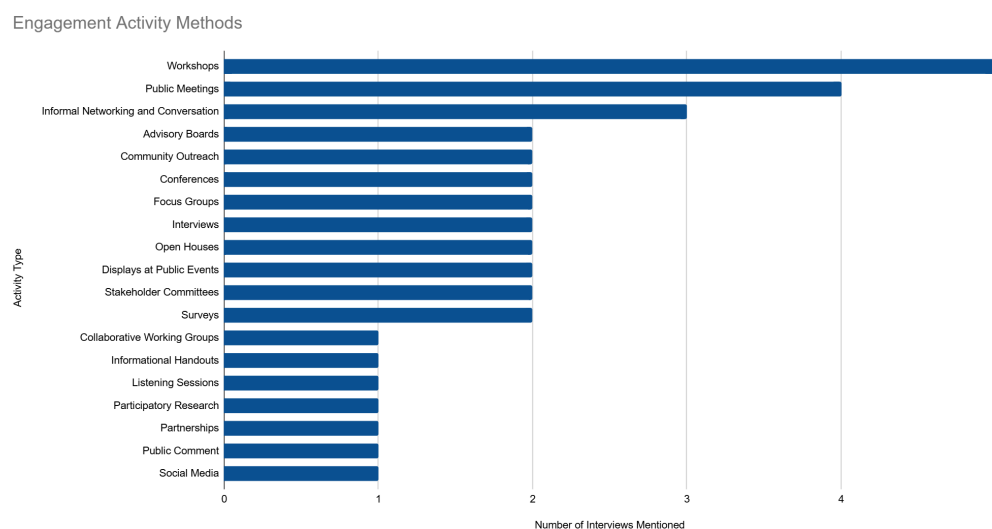


Figure 12: Distribution of Engagement Activities Mentioned by Interviewees (N=10)

Similarly to the survey results, interview participants indicated that workshops were the most commonly used form of engagement (n=5 responses, 50%). Some engagement activities identified in the survey, such as Delphi studies and roundtable discussions, were not mentioned in interview responses and were therefore removed from the initial deductive codes. Additionally, new codes were added for public meetings, informal networking and conversation, open houses, stakeholder committees, informational handouts, listening sessions, and public comment. These reflected activities that were mentioned by interviewees that were not initially identified in the survey. Posters at public events was also changed in the interview coding to displays at public events to include more activity types that meet the same goals of engagement, such as information tables and demonstrations.

It is important to note here that a direct comparison cannot be made between the results of the interviews and the survey. The survey question was constructed as a multiple choice question where participants could select all of the activities they have used in their engagement, whereas the interviews simply asked participants to describe their engagement process and participants were not expected to identify every engagement activity they have used.

Stakeholder Groups Engaged by Survey Participants

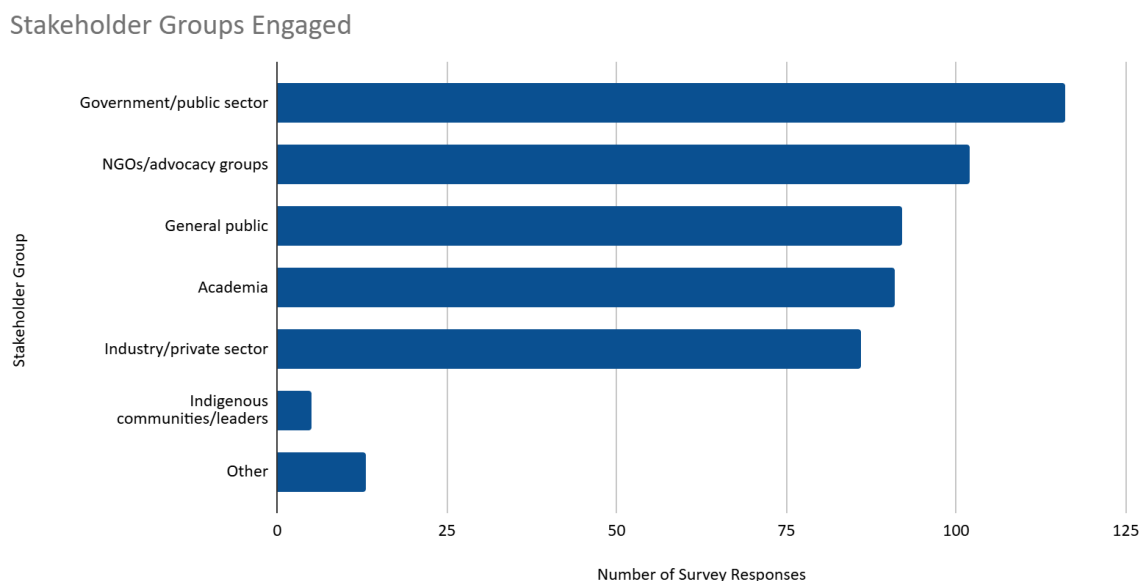


Figure 13: Distribution of Stakeholder Groups Engaged by Respondents (Survey)(n=121)

Survey participants were asked to identify common stakeholder groups that they engage with as a part of their engagement processes. Given a list of government/public sector, NGOs/advocacy groups, the general public, academia, and industry/private sector, participants selected government stakeholders as the most commonly represented (n=116 responses, 95.87%). The least number of respondents selected industry or private sector stakeholders as a group of stakeholders they commonly engage with (n=102 responses, 84.3%). Participants were also allowed to select “other” and write in responses for stakeholders they engaged with. Overall, 13 participants selected “other” (10.74%), with Indigenous communities or leaders being identified most often (n=5 responses, 4.13%) and therefore was added to Figure 13 to represent the significant number of respondents that identified this stakeholder group. Other responses identified by participants included product/resource users, employees, commodity groups, experts, landowners, children, educators, disaster survivors, and farmers.

Process of Goal Formation Identified in Interviews

Interviews explored participants’ processes for forming goals for their engagement. Although each had varying perspectives on how these goals were formed, and some did not have a formal process for these goals, responses were generally categorized into two major themes.

One of these themes relates to how literature generally defines goals for engagement, sorting goals into categories such as inform, consult, co-create, and empower. Informing, consulting, and co-creating were each mentioned as the purpose of 70% of participants' engagement efforts (n=7 responses). Empowering was mentioned as the purpose of 20% of participants' engagement efforts (n=2 responses). Alternatively, some participants chose to discuss goal formation in terms of their stakeholders and their organization, grouping goals not by their purpose, but by the groups responsible for creating them. These were categorized into engagement goals required by an outside entity, like a funding source or an organization, goals determined by stakeholders, and goals that were determined by stakeholders, but facilitated by organizers or practitioners. Goals formed because of requirements were mentioned by 30% of interviewees (n=3 responses). Stakeholder-formed goals were also mentioned by 30% of interviewees (n=3 responses). Lastly, 30% of interviewees mentioned being able to support and facilitate stakeholder goals as an important goal of engagement (n=3 responses). This theme of goal formation tended to center stakeholder needs in the engagement process, to help them achieve their own goals and address their needs.

2.3.5 Challenges and Barriers to Effective Stakeholder Engagement

Significant challenges and barriers that were identified through the survey and interviews are outlined in the following subsections. Interview and survey results varied, with interviews documenting more nuanced and diverse challenges to engagement. Challenges represented in the survey reflected theoretical challenges documented in the literature and those represented in interview results reflected the real-world challenges that practitioners often face when planning and conducting engagement.

Significance of Challenges in Stakeholder Engagement

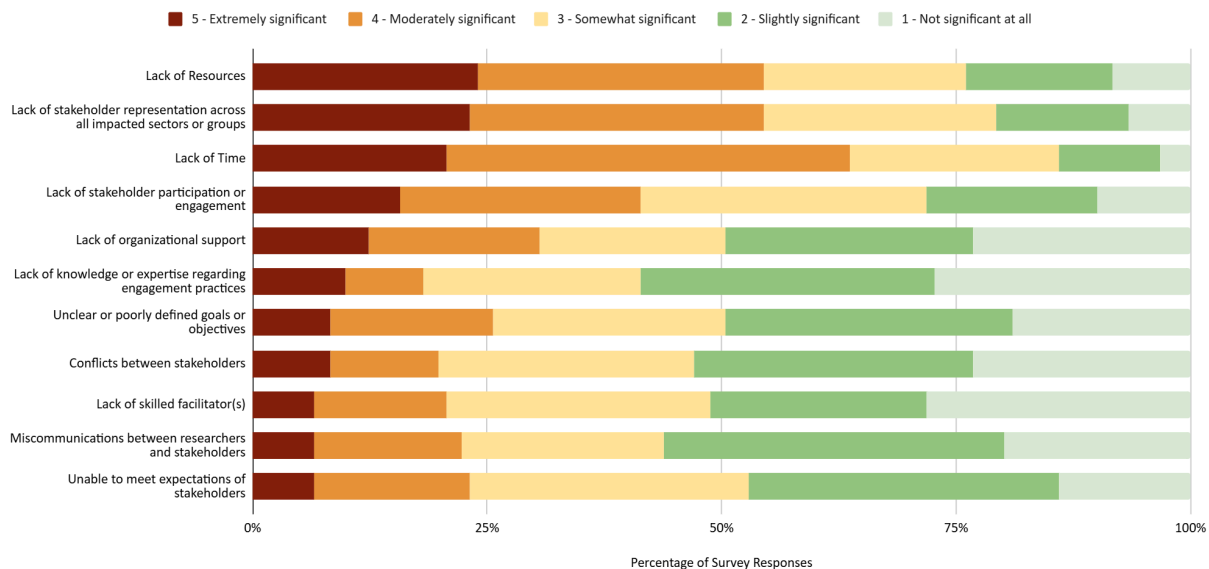


Figure 14: Significance of Challenges in Stakeholder Engagement (Survey)

Survey participants were given a matrix-style Likert-scale questionnaire to label the significance of 11 common challenges that were identified in the literature review. The results of this data are displayed in Figure 14. The most significant challenges that participants identified include lack of resources ($n_{\text{extremely significant}}=29$ responses), lack of stakeholder representation across all impacted groups ($n_{\text{extremely significant}}=28$ responses), and lack of time ($n_{\text{extremely significant}}=25$ responses). The least significant challenges among those surveyed included lack of skilled facilitators ($n_{\text{extremely significant}}=8$ responses), miscommunications between researchers and stakeholders ($n_{\text{extremely significant}}=8$ responses), and inability to meet expectations of stakeholders ($n_{\text{extremely significant}}=8$ responses).

Participants were also given the opportunity to identify additional challenges that were not addressed in the closed response options. Responses to this question included those regarding inclusive engagement practices, lack of stakeholder participation, identifying and reaching stakeholders, lack of trust, difficulties explaining technical subjects to non-technical stakeholders, polarizing views or subjects, measuring success, and cultural differences.

Table 4: Challenges and Barriers Identified by Interviews

(% = percentage of interviewees that mentioned theme, out of 10 interview participants)

Theme	%	Exemplary Quote
Barriers to Participation	90%	“You've got some stakeholders who are going to have a much easier time being identified, being contacted, having the opportunity to participate, etc.”
Lack of Capacity	80%	“Another barrier is another barrier is bandwidth. There aren't enough people. There aren't enough hours. There isn't enough time. There isn't enough money. To really engage the full range of stakeholders when they need to be engaged.”
Defining Goals or Issues	50%	“Defining the problem, having a clear problem statement that says this is the problem right? And I think that is a real challenge.”
Understanding Stakeholder Needs	50%	“If you don't have a way to engage them directly to learn about their questions and concerns, you really can't address them.”
Measuring Success	40%	“Sometimes it's hard to prove that you have positive relationships ... I think it's inherently tough to measure.”
Transparency	40%	“I feel like there's no transparency. It's like, this is our work. This is what we're trying to solve. We want your work to be engaged. Like it's never quite that detailed. And I think people would really appreciate it if it was a little bit more transparent.”
Varying Perspectives	40%	“It is much easier when like-minded people with like-minded backgrounds are coming together on a given topic.”
Conflicts Between Stakeholders	30%	“There can be scenarios where finding that common ground is going to be a little more challenging.”
Mutually Benefitting	30%	“The work may or may not be for their benefit, but they're asked to participate.”
Reaching Consensus	30%	“Ultimately the challenge is to get agreement and how do you use stakeholder engagement processes to reach consensus solutions?”
Stakeholder Compensation	30%	“We're asking them to do something extra that isn't part

Table 4: Challenges and Barriers Identified by Interviews

(% = percentage of interviewees that mentioned theme, out of 10 interview participants)

		of their job. So they should be paid for it. And logistically, that's hard to do.”
Building and Maintaining Relationships	30%	“We’re talking about relationships with people, and those are dynamic. You never totally know how its going to go.”
Power Imbalances	20%	“When you have multiple stakeholders and there's an imbalance in how organized and resourced they are. It is difficult to have a good process.”
Misinformation	10%	“I actually think misinformation even within close-in stakeholder groups is really there ... Maybe there's a sense of fear about new technology, like it's going to be hard. There will be some people who don't like it.”
Checking a Box	10%	“If we check the boxes, we still will not have really done anything meaningful.”

Interviews were able to investigate challenges identified in the literature and the survey on a deeper level, gaining more insight into the specific challenges and barriers that fall into the more generalized categories identified in previous sections. Overall, 15 unique themes were identified from interview data, with subcategories identified for four of those themes. These 15 themes identified are outlined in Table 4. The themes that were most discussed in interviews were barriers to participation (n=9 responses), lack of capacity (n=8 responses), defining goals or issues (n=5 responses), and understanding stakeholder needs (n=5 responses). These most notable themes are explored in depth in the following sections.

Barriers to Participation

Interview responses that related to a lack of participation due to barriers that prevented stakeholders from effectively or equitably participating in engagement efforts were grouped into this theme. Subcategories of this theme that identified specific barriers or challenges included the capacity to influence outcomes or decisions, equitable representation, geographic constraints,

incentivizing participation, lack of interest, lack of knowledge on novel technology or issues, legal constraints, and general unavailability to participate.

The most commonly mentioned challenge among these subcategories was ensuring equitable representation (n=5 responses), correlating to survey results in which lack of stakeholder representation across all impacted groups was identified as one of the most significant challenges. When referring to this challenge participants mentioned not being able to equitably engage the full range of stakeholders relevant to the issue. For some, this meant that some stakeholders had more resources and ability to participate, and for others it meant that practitioners were not physically able to get all of the necessary stakeholders involved, connecting to the lack of capacity and bandwidth. Two participants (n=2 responses) discussed that in some cases they need to use representatives from different stakeholder groups to ensure a productive and efficient process, but that this can lead to inequities in the perspectives and needs that are represented.

There were other constraints that participants mentioned that led to an overall lack of participation that was noted in the survey results. These specific constraints included stakeholders being spread over different geographic regions, not having time to participate, not feeling as though they could influence decisions and outcomes, not being immediately impacted by an issue, not fully understanding an issue, and legally not being able to share full perspectives.

Lack of Capacity

Responses that related to practitioners feeling as though they did not have the capacity or bandwidth to effectively engage with stakeholders were grouped into this theme. Specific subcategories included lack of time, lack of funding, implementing concepts or plans, lack of knowledge of engagement practices, lack of participation from leaders or organizers, lack of skilled facilitators, logistical planning challenges, navigating complex systems, needed skills for effective engagement, and being unable to meet stakeholder expectations. Among these, lack of time (n=4 responses), lack of funding (n=3 responses), and needed skills (n=3 responses) were the most cited barriers to the effective planning and conducting of engagement.

When participants discussed a lack of time to effectively and comprehensively conduct engagement, they mentioned the time that it takes to build relationships and trust, and that the

time needed to conduct engagement is not always available when there are deadlines for funding, proposals, or policies. Participants also discussed that in many cases funding is not available to conduct the types of engagement necessary to address the complex sustainability-related issues they are working on. Additionally, participants mentioned that budgeting for engagement can be difficult to do up front as there may be additional unanticipated costs that are accrued throughout the process, or organizers underestimate the costs associated with planning and conducting comprehensive engagement efforts. Lastly, participants mentioned the skills necessary to conduct engagement, specifically surrounding communicating and facilitating conversations that are not always considered by organizers. They emphasize that skills like communicating, teaching, and listening are all learnable skills, but may take training or practice to become proficient at.

Defining Goals or Issues

The survey identified unclear or poorly defined goals or objectives as mainly a somewhat or slightly significant challenge for practitioners, but when analyzed in interview results, this challenge was expanded to include the upfront understanding of context, goals, and issues needed to engage stakeholders. Participants who labeled this as a significant challenge discussed that especially when many conflicting stakeholder groups are coming together, it is challenging to understand the issue and context to form goals that will benefit all stakeholders. Additionally, participants mentioned that varying perspectives between stakeholders caused conflict when defining what the problem was, with some stakeholder groups not taking the concerns of other stakeholders seriously. Participants also mention finding a balance between not allowing the scope of goals to become too large and overwhelming, while also ensuring that stakeholders have input in decisions and not coming into engagement with too many predefined problems and goals can be challenging.

Understanding Stakeholder Needs

Interviewees emphasized that one of the key purposes of engagement is to help meet stakeholder needs when developing policies, technologies, research, and decisions. To do this effectively, practitioners must work to understand stakeholder needs in order to address them, but this is not always easy. Two of the five participants who mentioned this challenge discussed that sometimes organizers or leaders can have a misguided perception that their intended outcome is

the best solution to a problem, but stakeholders may not always agree, and understanding stakeholder needs can create more useful and productive outcomes. One participant also connects this concept to the lack of capacity to conduct more thorough and comprehensive engagement, where practitioners are unable to assess the full range of stakeholder needs because they do not have the capacity to engage with every stakeholder.

2.3.6 Solutions to Barriers and Challenges

Overall, participants in both the survey and interviews identified a variety of needs and solutions that could potentially improve engagement processes. In general, finding ways to build capacity within stakeholder engagement practices was a major need and solution for improved engagement. Survey results showed the significance of some needs and proposed other needs for improved engagement. Interviews identified 10 unique themes related to solutions to common challenges that are outlined in the subsequent sections.

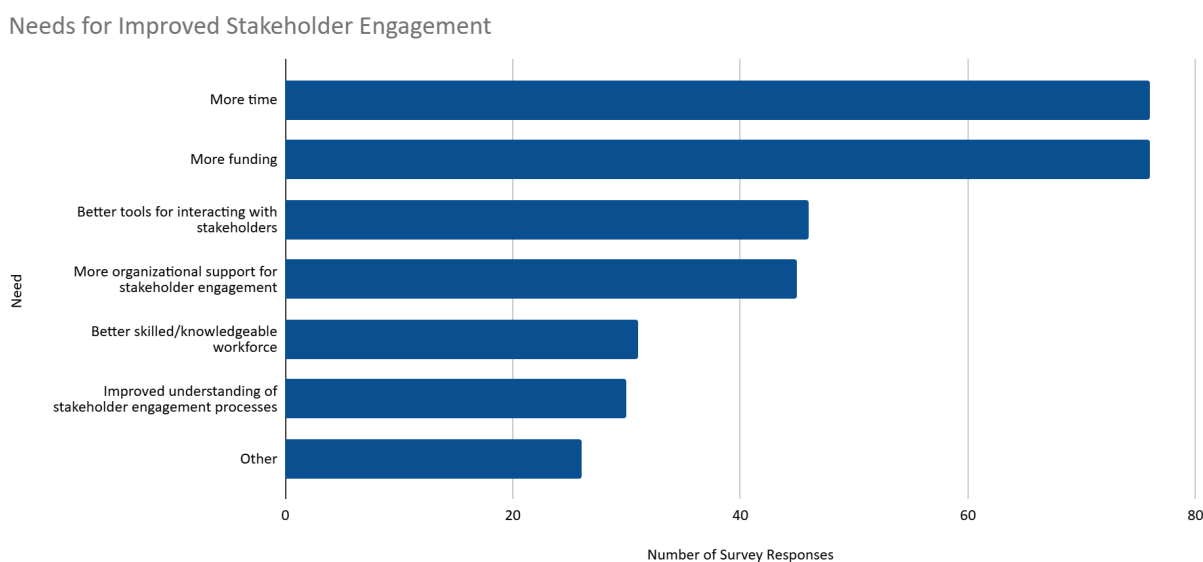


Figure 15: Needs For Improved Stakeholder Engagement (Survey)

The survey allowed for a general overview of the needs of practitioners to engage more effectively. Survey participants were given six options describing needs that correlated to the challenges identified in the literature and were able to select multiple items to express their needs for improved engagement. Of these options, more time and more funding were the most commonly selected responses, with 76 respondents selecting these options as common needs

($n_{\text{more time}}=76$ responses, 62.81%; $n_{\text{more resources}}=76$, 62.81%). The least common response option was an improved understanding of stakeholder engagement processes ($n=30$ responses, 24.79%), correlating to respondents' general confidence in their knowledge of and ability to plan and conduct stakeholder engagement. Respondents were also able to select an option for other and describe additional needs for improved engagement. These responses included more transparency, more desire to participate from stakeholders, more understanding of how stakeholders benefit from engagement, more flexibility, more decision-making power, a better understanding of stakeholder needs, and more stakeholders to engage with.

Table 5: Potential Solutions to Challenges Identified in Interviews

(% = percentage of participants that mentioned solution, out of ten interviews; & = unique codes for different solutions; / = child code to indicate a more specific solution to a challenge)

Challenge	Solution	%
Measuring Success	→ (See Measuring Success Section of Results)	100%
Barriers to Participation	→ Mechanisms for Increased Participation	90%
Conflicts Between Stakeholders	→ Improving Trust and Legitimacy & Understanding Stakeholder Needs and Perceptions	90%
Mutually Benefitting	→ Understanding Stakeholder Needs and Perceptions & Mechanisms for Increased Participation	90%
Building and Maintaining Relationships	→ Building Relationships, Building in Time and Resources & Improving Legitimacy and Trust	80%
Lack of Capacity	→ Asking For More & Building in Time and Resources & Knowing Limitations	80%
Transparency	→ Improving Trust and Legitimacy & Knowing Limitations	80%
Understanding Stakeholder Needs	→ Understanding Stakeholder Needs and Perceptions	80%
Defining Goals or Issues	→ Knowing Limitations	60%
Misinformation	→ Improving Trust and Legitimacy	60%

Table 5: Potential Solutions to Challenges Identified in Interviews

(% = percentage of participants that mentioned solution, out of ten interviews; & = unique codes for different solutions; / = child code to indicate a more specific solution to a challenge)

Reaching Consensus	→	Access to Trained Facilitator & Community Approach	60%
Stakeholder Compensation	→	Mechanisms for Increased Participation/Incentives	60%
Checking a Box	→	When is Engagement Needed?	30%
Varying Perspectives	→	Community Approach	30%
Power Imbalances	→	Mechanisms for Increased Participation/Mitigating Power Imbalances	20%

Interviews allowed for more specific and relevant solutions to emerge compared to the survey. Overall, interviews identified 10 unique themes relating to addressing challenges identified in previous sections. These key themes include access to a trained facilitator, asking for more, building in time and resources, building relationships, a community approach, improving legitimacy and trust, knowing limitations, and mechanisms for increased participation, understanding stakeholder needs, and knowing when engagement is needed. There were more specific subcategories identified for five of these key themes. These themes are explored in more detail in the sections below.

Access to a Trained Facilitator

“If everyone's agreed that this is a neutral, impartial observer then they can more easily point out that perhaps certain groups are being disadvantaged or certain groups are trying to control the process”

Three interview participants discussed utilizing a trained facilitator as a potential solution to engagement challenges. When participants discussed conflicts between stakeholders, they described that having access to a trained facilitator was an important way to address these conflicts and mitigate power imbalances. In some cases, participants had been trained in

facilitation, and part of their engagement role was to facilitate engagement efforts, but in other cases, practitioners hired facilitators to attend events when they knew there were conflicts or power imbalances. In many cases, both within the survey responses and the interview responses, having access to a facilitator was connected to a lack of capacity, specifically funding. Some participants discussed ensuring tools like this are budgeted for and built into the engagement process, connecting to the solution of building in time and resources. One participant discussed sharing the costs of this facilitator with different groups involved in the engagement both to ensure neutrality and to offset the associated costs.

Asking for More and Building in Time and Resources

“Sometimes I have the opportunity to build in the time. Other times I don't. But it does really show in the final result how good a job we're able to do based on how much context we have.”

A large percentage of both interview participants and survey participants recognized the amount of time needed to plan and conduct effective engagement ($n_{\text{more time (survey)}}=76$ responses, 62.81%; $n_{\text{time needed (interview)}}=9$ responses, 90%). Furthermore, participants also identified the lack of time as a major barrier to effective engagement ($n_{\text{lack of time (extremely significant AND moderately significant)(survey)}}=77$ responses, 63.63%; $n_{\text{lack of time (interviews)}}=4$ responses, 40%). When asked about solutions to challenges and barriers, 40% of interviewees ($n=4$ responses) described specifically building in time and resources in a project or decision to help build relationships, trust, context, understanding, and informed decisions. Interviewees describe that although time and resources are not always as flexible as they would like, being able to explain to organizations, funders, or clients why these resources are necessary and the implications of doing engagement ineffectively may help encourage more allocated time and resources to a project.

Building Relationships

“The big theme there that I see is I'm much better positioned to help a community achieve their goals around sustainability if we have an ongoing relationship and if I'm embedded in the network that they need to access.”

Four interview participants emphasized the importance of building relationships with stakeholders as a solution to some of the challenges they experience. Specifically, they express that forming and maintaining those relationships is an important way to help stakeholders

achieve their goals and ensure that engagement processes run more smoothly. Additionally, participants shared that forming networks of outside resources and people can help ensure they can connect stakeholders to valuable resources that they themselves might not have expertise in or resources for. Although three participants described this as a challenge, participants who mentioned this as a solution, were able to expand on their process for building relationships. Two of these participants described encouraging themselves and others to engage in informal conversations with stakeholders and find shared values, even if they are not directly related to the issue or decision at the core of the engagement. Another participant mentioned remaining patient and flexible while building relationships is important to ensuring quality relationships.

Community Approach

“I think part of the solution is making sure you have a really diverse group of team members ... That are a part of the gang from the very beginning. And that, I think, increases the possibility of success at the possibility of putting this new knowledge to work to use, to implement at the community level and individual level.”

Three participants mentioned using a community approach as a potential solution to the barriers and challenges they experienced. Responses categorized into this theme emphasized the importance of the whole community of those affected or who can affect as important decision-makers. Participants emphasized the importance of bringing people together to better understand issues, as well as the need to discuss and implement solutions. Participants recognize that the complex problems they are tackling will inherently involve many different perspectives, which may be challenging, but bringing people together and emphasizing solutions can be an important way to encourage consensus between a diverse group of stakeholders.

Improving Legitimacy and Trust

“They're seeing how their input influenced our proposal. Regulations say it and they realize they may not like everything they're saying, but there's been trust built. And they can see that we listened and took action on a lot of the input that they provided.”

Literature, the survey, and interviews all recognized the importance of trust in the engagement process, but there are a few different methods that interview participants identified as ways to build trust and legitimacy within their engagement practices. Interview participants

who discussed the process of building trust and legitimacy discussed identifying trusted community leaders and experts, sharing consistent values and information, finding shared values, ensuring stakeholders have decision-making ability or influence on the end product, and ensuring that funding for engagement efforts, especially facilitators, is neutral or shared among various groups. One of the most commonly discussed methods of building trust was identifying trusted community leaders or experts (n=3 responses). Participants referred to this in a few ways including uplifting community members' expertise of an issue to explain certain topics to peers, ensuring trusted leaders are embedded in the community to share important information, and ensuring that, when representatives are needed for more formal engagement, they are trusted within the community to accurately represent the communities needs and perspectives.

Knowing Limitations

“So being really clear about who the decision maker is and what power people actually have to affect that decision is part of what might help us decide where to bring people together.”

In response to lacking capacity, and challenges in defining goals or issues, 60% of interview participants (n=6 responses) mentioned understanding and being transparent about the limitations of both practitioners' and stakeholders' roles in the engagement process. Within this theme, participants mentioned the importance of managing the expectations of stakeholders, especially as it relates to their power to influence outcomes and decisions, as well as setting realistic and achievable goals. Participants discussed maintaining sight of the big picture issues, while also making short-term, practical plans that will maintain stakeholders' interest and trust in the process. Recognizing the amount of resources available, the possible futures, and the individuals or groups with the capacity to make a change can help effectively identify where stakeholders are needed and how to engage them.

Mechanisms for Increased Participation

“It's creating an environment that's just going to be attractive to people. So is there food? Is it someplace they want to be? Are you doing it in a place that's enjoyable? We're not going to do it as a virtual four-hour workshop. That would not be as fun.”

Correlated to the large percentage of participants who recognized barriers to participation as a significant challenge in interviews (n=9 responses; 90%), a large percentage of participants

also identified potential mechanisms for increasing participation (n=9 responses; 90%). Within this theme, 12 subcategories were identified to capture the diverse ways in which participants have encouraged participation. These categories include acknowledgment of contributions, encouraging active participation, making engagement convenient, encouraging informal conversations, having flexibility with stakeholders, offering incentives, creating an inclusive environment for engagement, leveraging relationships, mitigating power imbalances, identifying ways in which participants benefit from engagement, having diverse options for engagement, and identifying shared language among stakeholders. The most commonly identified mechanisms for increased participation were offering incentives (n=6 responses, 60%), inclusive engagement practices (n=4 responses, 40%), ensuring engagement activities are convenient (n=4 responses, 40%), and encouraging informal conversation (n=4 responses, 40%).

The conversations around incentives are a key response to not only the challenge of encouraging stakeholders to participate but also the challenge of compensating stakeholders. In some cases, interviewees described using incentives to both encourage participation as well as another way of compensating stakeholders for their time outside of monetary compensation. Outside of monetary incentives, participants mentioned offering food or a meal, beverages, items like t-shirts, mugs, or stickers, and prizes for engaging during events. It is important to note here that some participants described limitations to utilizing incentives for participation. One participant described that non-monetary incentives may offend some stakeholders because of the amount of time they are dedicating to engagement efforts. Alternatively, another participant expressed concerns that monetary incentives can become transactional. Overall, participants expressed the importance of understanding stakeholders' needs and perceptions, as well as the context of the situation to make informed decisions about the most effective incentives for participation.

Participants also discussed the importance of creating an inclusive environment for engagement. Although this theme meant inviting diverse participants to participate in engagement efforts, it also meant ensuring that participants were able to effectively and safely share their concerns, perceptions, and needs. In some cases this meant offering engagement activities in multiple languages or forms, in others it meant understanding power imbalances to give less powerful stakeholders a platform to engage.

Understanding Stakeholder Needs

“Listening is a key part of it. Start with listening and really listening to what the person is concerned about, what they care about, what they know, what they don't know, what they want to know, and what they don't want to know.”

Understanding and centering stakeholder needs in the engagement process was a common theme, especially when referring to solutions to challenges (n=8 responses, 80%). It was also recognized as a common challenge among interviewees (n=5 responses, 50%). When referring to potential solutions for this challenge, participants identified a few methods to help gain a more comprehensive understanding of stakeholder needs. These included a formal needs assessment, using audience segmentation strategies, acknowledging the diversity of perspectives, and exploring the context of issues and decisions. Participants described utilizing a formal needs assessment, by conducting some form of formal analysis, whether it be through surveys, interviews, focus groups, or listening sessions, to document how stakeholder needs and perceptions may change over time. This listening and analysis can help inform more targeted engagement strategies that more efficiently address solutions to problems that stakeholders are facing. Additionally, participants also described segmenting and understanding diverse stakeholder perspectives. For example, two participants emphasized when the public is a stakeholder, it is important to understand that the public is not a homogenous group with the same values and needs, and being able to segment different groups to better understand the diversity of needs can be a key solution to informing decisions and outcomes. Lastly, two participants mentioned seeking out key contextual information including available resources, cultural contexts, and history of the issue, is a potential solution to building relationships and navigating complex systems.

Knowing When Engagement is Needed

“Stakeholder engagement isn't always worth doing. Like you can do it wrong. You can do it in a way that actually makes things worse for stakeholders. And there are times where I need to just say, no, I can't be part of that or I'm not the right person to do this. Maybe I can help you find someone who is.”

Three participants described being able to determine when engagement is needed and when it is ultimately not needed as important to ensuring that engagement is effective and

impactful. These participants emphasize the importance of understanding the purpose of the engagement as well as stakeholder needs in this determination. One participant suggests that although long-term engagement can be necessary and impactful, there are certain situations where the purpose of the engagement has been fulfilled and engagement is no longer needed. Others expressed that when the purpose or goals of engagement are ill-conceived or do not meet the needs of stakeholders, this can lead to unhelpful or unproductive decisions or outcomes.

2.3.7 Understanding and Measuring Success

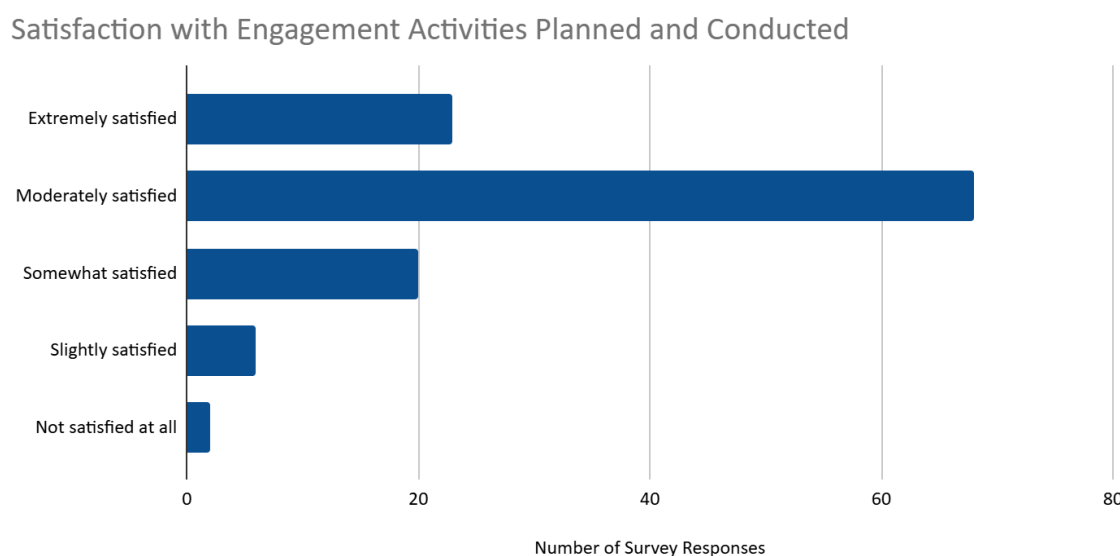


Figure 16: Satisfaction with Engagement Activities Planned and Conducted (Survey)

Survey participants were asked to label their satisfaction with the engagement activities they were involved in planning and conducting. The definition of satisfaction participants were given was “For the purpose of this question, satisfied means that the desired outcomes were achieved, goals were met, and/or the event was planned and implemented as intended.” Overall, participants responded that they were moderately satisfied with the engagement activities that they planned and conducted (n=68 responses, 56.2%). The next highest response option was extremely satisfied (n=23 responses, 19.01%), and the lowest number of responses fell into the not satisfied at all category (n=2 responses, 1.65%), indicating that the majority of participants felt their engagement efforts were generally successful.

Table 6: Metrics For Measuring Success Interview Responses (% = percentage of interviewees, out of ten, that mentioned metric)		
Metric	%	Exemplary Quote
Participation	70%	“How many people participate in the process? I think that's always got to be at the top of mind because you need to make sure all the different interests are represented there.”
Building Capacity	40%	“Are these stakeholders better equipped to collaborate with each other in the future? That capacity-building side, like the next time they're trying to solve a problem or go through a process together, will it be easier? And they will be easier if you're not starting from square one.”
Implementation of Concepts and Plans	30%	“We met, we gathered feedback from our stakeholders, we brought it back, and then we did something with it. It changed a practice that we do.”
Positive Impacts on Community	30%	“It's also about sustainable or resilient communities and economies. So we have metrics about business creation. How many businesses have I helped keep employees or add employees? What is the total economic impact of those enterprises?”
Relationship Building	30%	“You're going to have certain measures that may be qualitative. So it could be the quality of your relationships.”
Informed Decisions	20%	“That [engagement] can inform product development. That can inform positioning. That can inform messaging campaigns, that type of thing. That would be kind of one key area that I've used.”
Shared Information	20%	“Easy evaluation metrics are useful for the bean-counting purposes like they said they learned something.”
Budget	10%	“A budget for the engagement is a key indicator that we often use. You don't want to create multiple ways [engagement activities] and you can't afford to do it.”
Improved Sentiment	10%	“To measure sentiment, which you can do quite easily online, right? ... So tracking neutral to positive

Table 6: Metrics For Measuring Success Interview Responses (% = percentage of interviewees, out of ten, that mentioned metric)		
		sentiment is really important.”
Meeting Engagement Goals	10%	“Did we accomplish the goals of the engagement?”
Positively Perceived Outcomes	10%	“How happy are people with the outcome? Like, do we have buy-in from these stakeholders?”

Interview data captured some of the ways in which participants understood and measured success within their engagement efforts. Overall, 14 unique themes for measuring success were identified that included both methods for capturing metrics as well as the metrics themselves. The key metrics that were identified by participants included budget, building capacity, implementation of concepts and plans, improved sentiment, informed decisions, meeting engagement goals, participation, positive impacts on communities, positively perceived outcomes, relationship building, and shared information. The distributions of these themes and example quotes from interviews are included in Table 6 above. The most mentioned metric was participation (n=7 responses, 70%), which included both measuring how many people participated in engagement, but also whether those participants represented the full range of stakeholders associated with a project. Interview participants discussed measuring these metrics by surveying stakeholders, rubric style reflection, informal feedback from stakeholders, and general reflection of the engagement process. Additionally, some participants were asked about whether these metrics were able to capture or help them understand the challenges they experienced within their engagement process. In four interviews, participants discussed that their challenges were connected to their success metrics in some capacity. Some participants described that they were able to capture some of the barriers to participation through their surveys and documentation of participation.

CHAPTER 3: SYNTHESIS AND DISCUSSION

This research study aimed to document the practical experiences of practitioners of stakeholder engagement in sustainability fields and compare those experiences to the best practices identified from the literature. It places a specific emphasis on the challenges and barriers that are associated with engagement as well as the potential solutions to these challenges, intending to share knowledge and improve engagement practices. The key takeaways from this project relate to the breadth and depth of engagement processes and challenges, as well as the diverse ways in which practitioners are working to improve their engagement practices.

In reference to the engagement process, practitioners had a diversity of experiences and practices relating to how they engage their stakeholders that did not always align with the more cyclical steps for engagement outlined in some literature. Participants emphasized the iterative process of engagement as well as the importance of listening and adjusting according to stakeholder needs. This is also revealed in participants' descriptions of their process for developing goals of engagement. Although literature focuses on the development of goals as a process that focuses on the outcomes and activities of engagement, many participants reflected on the importance of stakeholder needs in the goal formation process. They also showed that these goals can ultimately be more specific and targeted to their stakeholders than the simpler categories of goals that are identified by scholars and organizations such as Bammer (2022), the International Association for Public Participation (2018), Mease et al. (2018), and Rowe and Frewer (2005). Additionally, the science of sustainability is expansive and offers an incredible diversity of stakeholders, which was demonstrated by the many different types of stakeholders that practitioners are engaging in their processes. It is also exhibited in the variety of methods they are using to engage stakeholders in sustainability-related projects.

Challenges that were outlined in the literature did not represent the breadth and depth of practical challenges practitioners face, and only seven key themes were identified as potential challenges to engagement efforts. Based on interview data, 15 key themes were identified as potential challenges to stakeholder engagement. Although some of these challenges aligned with the literature, including barriers to participation and conflicts between stakeholders, others were described in interviews and the survey results that did not align with challenges outlined in the literature, including understanding stakeholder needs, building relationships, power imbalances, and transparency. Despite literature mentioning many of these as key considerations for

engagement, it does not identify the potential challenges and barriers associated with effectively incorporating these considerations into engagement practices. Additionally, the theme related to the lack of capacity many practitioners face included multiple themes identified in the literature, including the lack of time and resources, further showing the complexity and diversity of the practical challenges engagement practitioners face.

Participants shared many perspectives on ways to address the practical challenges faced by practitioners. The various solutions participants discussed show that although these challenges are complex, those who are working in stakeholder engagement are finding creative and innovative solutions that may help other practitioners address their own challenges and meet the complex needs of their stakeholders.

Additionally, although most participants felt their engagement efforts were generally successful, many did not have a routine process for measuring success within their engagement process. This correlates to the limited amount of literature related to the topic, but the metrics of success identified by participants did generally correlate to the findings by Blackstock et al. (2007) related to criteria for measuring success. Similar themes include capacity building, cost effectiveness, capacity to participate, quality of decision-making, recognized impacts, relationships, and opportunity to influence. Nonetheless, findings from both the literature review and interview results point to a need for more comprehensive approaches to measuring success, because being able to measure success and reflect on engagement can lead to improved engagement practices.

There is an opportunity for future research to develop comprehensive metrics to evaluate the success of stakeholder engagement efforts systematically. While this study identified several success indicators, such as relationship building and capacity building, the lack of standardized tools limits the ability to assess outcomes effectively and develop improved engagement strategies. Additionally, sector-specific challenges and approaches may warrant further investigation to provide tailored insights for practitioners across government, academia, NGOs, and industry. Comparative analysis could strengthen understanding of how unique contexts shape engagement practices and outcomes. Furthermore, addressing capacity constraints, including limited time and resources, is essential. Future research could explore innovative strategies to build capacity within engagement processes.

Limitations to this study include potential bias in the selection of participants, the distribution of an online survey through email, semi-structured interview protocols, limited statistical analysis, and potential bias through the lack of intercoder reliability. First, participants were selected through literature, online searches, conference websites, and networking. Although attempts were made to be as comprehensive as possible in the identification of participants, there is potential for bias and unintended exclusion due to the potentially large sampling pool of participants. As with any online survey, there are concerns regarding the accessibility of online surveys potentially excluding those without internet access. In this particular context, the survey period was open during the aftermath of Hurricane Helene, so not only did some potential participants not have access to the internet and email, but some were busy working on community engagement efforts related to hurricane recovery and may not have had time to complete the survey. Additionally, there are concerns related to data reliability when conducting online surveys due to the potential for participants to rush through the survey or answer based on how they believe the creator wants them to answer. Relating to the semi-structured interview protocol, there is potential bias in the questions that the interviewer asks, respondents may be more likely to give responses they think the interviewer is expecting or wants to hear, and it can be difficult to compare results when questions differ slightly from interview to interview. Overall, results from the interviews and survey did not undergo comprehensive statistical analyses to derive conclusions comparing responses. This was due to the goals of the project being related more to documenting experiences rather than analyzing connections between processes, challenges, or disciplines. Lastly, because this was an individual thesis, qualitative analysis of the interview results was done exclusively by me. Therefore, the best practice of having other social scientists review the analysis and draw their own conclusions was lacking and introduced the potential for bias in the analysis.

CHAPTER 4: CONCLUSION

This study provides critical insights into stakeholder engagement practices within sustainability contexts, highlighting the complex and dynamic nature of engagement processes and the diverse challenges practitioners face. By identifying differences between theoretical best practices and the lived experiences of practitioners, this research offers a nuanced understanding of engagement strategies, challenges and barriers, and potential solutions to those challenges. The ultimate goals of this project were to identify best practices for stakeholder engagement in inclusive settings, based on the literature, identify and examine common challenges faced by researchers through engagement processes, based on literature and research conducted, and offer practical solutions to address challenges and improve stakeholder engagement processes

This research first examines best practices identified in the literature on a range of topics including defining stakeholders, the importance and benefit of engaging stakeholders, the steps for engaging stakeholders, key considerations for engaging stakeholders, and the challenges and barriers to effective engagement. The development of the survey and interview protocols was informed by the literature and designed to capture the key elements highlighted above. The use of both a survey and interviews captured perspectives from a broad range of practitioners through survey results, as well as in-depth, nuanced perspectives from a small range of interview participants. Overall, 121 individuals completed the survey, and ten of those individuals participated in a 30 to 60-minute long interview. Survey data was analyzed to report results and document general perspectives, and interview data was analyzed using qualitative coding to document key themes.

Results were written to report findings related to the engagement process, challenges and barriers, solutions to barriers and challenges, and understanding and measuring success. These categories related to literature topics as well as the interview and survey questions. Overall, these results showed that practical approaches and challenges related to stakeholder engagement in sustainability contexts are complex and nuanced. Although some of these findings correlated to findings from the literature review, there were more key themes identified through data analysis than through the initial literature review as they related to challenges and barriers.

Participants emphasized the importance of understanding and incorporating stakeholder needs and perspectives throughout the entire engagement process, although a portion of participants also identified this as a key challenge of their engagement efforts. Participants also

showed their dedication to engagement efforts through their creative and innovative solutions to the challenges and barriers identified. Their contributions may help inform other practitioners' efforts to involve stakeholders more effectively and inclusively.

This research also offers opportunities for future research including surrounding more comprehensive and process-oriented measures of success of stakeholder engagement, investigating differences between different sectors' engagement practices and challenges, and methods for enhancing capacity for engagement efforts.

Ultimately, this research contributes to the growing body of knowledge on stakeholder engagement by documenting the practical experiences of stakeholder engagement practitioners in sustainability contexts. It offers insights into the diverse engagement processes, the challenges and barriers to engagement, solutions to these challenges, and measurements of success, all within the scope of sustainability fields.

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APPENDICES

APPENDIX A: COMPLETE SURVEY TEXT

Pre-Survey Text:

Thank you for taking the time to participate in this confidential survey to better understand your perceptions and experiences of being involved in stakeholder engagement within sustainability contexts.

For the purpose of this survey, a *stakeholder* is a person or a group of people who can affect or be affected by an event, process, activity, intervention, innovation, and/or decision. In addition, the term *sustainability* is meant to be broad and include a diverse set of disciplines and practitioners that work on issues related to the long term sustainability of our environment, health and wellbeing, food systems, and development.

We would greatly appreciate your time to answer the following questions related to your experiences with stakeholder engagement. The survey will involve a combination of multiple choice and open ended questions, and it is expected to take no more than 10 minutes to complete.

There are minimal risks to participating in this study. Your responses are voluntary and confidential. Your responses will not be recorded with any direct identifying information, such as your name or email address. Original survey data will only be accessed by the research team. Only aggregated data or themes will be published, and no direct quotes will be included. If at any time you wish to withdraw your participation you may close the survey.

If you have any questions or concerns about your participation please contact Corie Griebel, Graduate Research Assistant at cmgriebe@ncsu.edu. You may also contact the project advisor, Dr. Khara Grieger at kdgriege@ncsu.edu. If you have questions about your rights as a participant or are concerned with your treatment throughout the research process, please contact the NC State University IRB Director at IRB-Director@ncsu.edu, 919-515-8754. The IRB protocol number for this project is 27444.

Thank you again for your participation in this survey!

By clicking “I agree,” you are indicating that you are at least 18 years old and agree to participate in the survey. To begin the survey, click on the link to proceed to the next section.

- I agree to participate
- I do not agree to participate

[next page]

Familiarity

1. How familiar are you with the concept of stakeholder engagement?

- Not familiar at all
- Slightly familiar
- Somewhat familiar
- Moderately familiar
- Extremely familiar

2. In your own words, how would you define stakeholder engagement?

Describe here: _____

3. Have you engaged stakeholders or do you plan to do so?

- Yes
- Maybe or unsure
- No

4. How satisfied were you with the activities you planned and implemented? *For the purpose of this question, satisfied means that the desired outcomes were achieved, goals were met, and/or the event was planned and implemented as intended.*

- Not satisfied at all
- Slightly satisfied
- Somewhat satisfied
- Moderately satisfied

Extremely satisfied

5. Please describe the engagement activities or processes you planned or implemented. In this description, please include which types of stakeholder groups you engaged (e.g. government officials, NGOs, the public) and what activities were planned or conducted (e.g. focus groups, surveys, workshops, education). Please do not include the names of the specific people or organizations you engaged or worked with.

Describe here: _____

[next page]

Confidence

6. What is your level of confidence in your own personal ability to plan and conduct stakeholder engagement?

- Not confident at all
 Slightly confident
 Somewhat confident
 Moderately confident
 Extremely confident

7. What is your level of confidence in your organization's ability to plan and conduct stakeholder engagement activities?

- Not confident at all
 Slightly confident
 Somewhat confident
 Moderately confident
 Extremely confident

[next page]

Challenges

8. Thinking about the engagement activities you have conducted or planning to conduct, how significant are each of the following challenges to your engagement work, if at all?

Challenge	1 - Not significant at all	2 - Slightly significant	3 - Somewhat significant	4 - Moderately significant	5 - Extremely significant
Lack of time					
Lack of resources					
Lack of organizational support					
Justification of appropriating resources					
Unclear or poorly defined goals or objectives					
Lack of knowledge or expertise regarding engagement practices					
Lack of stakeholder participation or engagement					
Lack of stakeholder representation across all impacted					

sectors or groups					
Lack of skilled facilitator(s)					
Conflicts between stakeholders					
Miscommunications between researchers and stakeholders					
Unable to meet expectations of stakeholders					

9. Are there any other challenges you have identified in your work that are not listed in the previous question? *If yes, please describe them here:*

10. Thinking about the challenges you described in the previous question, have you taken any steps to address these challenges?

- Yes; and they were successful in addressing the challenges identified
- Yes; and they were unsuccessful in addressing the challenges identified
- No; but we plan to address these challenges in future engagement activities
- No; and we have no intention of taking steps to address these challenges

11. If you indicated yes in the previous question, please describe how you addressed or plan to address these challenges.

Describe here: _____

12. Based on your previous responses, why were the steps taken to address these challenges either successful or unsuccessful?

Describe here: _____

13. In general, what do you need to more successfully engage stakeholders in your work?

- More time
- More funding
- Better skilled/knowledgeable workforce
- Improved understanding of stakeholder engagement processes
- Better tools for interacting with stakeholders
- More organization support for stakeholder engagement
- Other (*please describe*): _____

14. Do you have any additional thoughts you would like to share with us about your experiences with engaging stakeholders? If so, please provide them here:

15. If you would be interested in participating in a follow-up interview, please include your email address here: _____

[next page]

Finally, we just need a little information about your background.

Demographics

16. What is your primary affiliation?

- Academia
- Government

- Industry
- Extension
- Non-governmental organization, advocacy group, and/or trade association
- Other (*please describe*): _____

17. What is your secondary affiliation, if any?

- Academia
- Government
- Industry
- Extension
- Non-governmental organization, advocacy group, and/or trade association
- Other (*please describe*): _____

18. What is your role in your organization(s)?

Describe here: _____

19. What is your area(s) of expertise?

Describe here: _____

20. Which best describes your gender?

- Male
- Female
- Non-binary
- Prefer not to answer
- Prefer to self describe: _____

21. What is your age?

- 18-24
- 25-34
- 35-44

- 45-54
- 55-64
- 65 or older
- Prefer not to answer

22. Which best describes your race/ethnicity?

- White
- Black or African American
- Hispanic or Latino
- Asian
- Native American or Alaska Native
- Native Hawaiian/Pacific Islander
- Middle Eastern or North African
- Prefer not to answer
- Prefer to self-describe: _____

APPENDIX B: COMPLETE INTERVIEW GUIDE

Introduction:

Hello! My name is Corie Griebel and I am currently a Masters student at NC State University. This research is being conducted as a part of my Masters thesis.

Thank you for agreeing to participate in this interview. We are excited to learn from you about your experiences in stakeholder engagement within sustainability fields. Today we are going to discuss your process for stakeholder engagement, the challenges you've experienced in your work, and the steps you have taken to address these challenges.

The purpose of this interview is to expand on the survey you took previously and gain a more comprehensive understanding of the trends identified in the survey. Your responses will help to inform more effective stakeholder engagement strategies and contribute to a body of knowledge on these practices.

The interview should last roughly 30 to 60 minutes. If it is alright with you, I will be recording this interview and creating a transcript. Your responses will be confidential and only the research team will have access to your responses. Your responses will be compiled into aggregate data, but some short quotations may be used as examples to demonstrate specific concepts.

As a reminder, we are defining a stakeholder as a person or a group of people who can affect or be affected by an event, process, activity, intervention, innovation, and/or decision. Additionally, the term sustainability is meant to be broad and include a diverse set of disciplines and practitioners that work on issues related to the long term sustainability of our environment, health and wellbeing, food systems, and development.

[Begin audio recording]

Do you have any questions before we begin?

Questions:

1. Can you tell me a little bit about your background?
 - a. What is your area of expertise?
 - b. What field do you work in?

- c. How long have you been doing this work?
2. Can you tell me about your experience planning and conducting stakeholder activities?
 - a. How do you and your organization(s) involve stakeholders in your work?
 - b. What types of stakeholders are you engaging with?
 - c. What kind of process(es) do you use to engage your stakeholders?
 - d. How do you develop goals for your engagement?
3. From your perspective, what are the most significant challenges you experience when planning and conducting stakeholder engagement? If there are many, please talk about the top two or three.
 - a. **Time** -> What do you feel is preventing you from having more time to plan and conduct your engagement?
 - b. **Resources** -> What do you feel is preventing you from having more resources to plan and conduct your engagement?
 - c. **Lack of participation** -> What do you feel are the factors that are limiting more active participation from stakeholders?
 - d. **Lack of representation** -> What do you feel is preventing participation from a diverse and representative group of stakeholders?
4. What are you and your organization doing to actively address the challenges you identified?
 - a. Which challenges have you been able to successfully address? Which challenges have you not been able to find solutions for?
 - b. **Time** -> Have you found methods that reduce the amount of time needed to plan and conduct engagement? Have you found ways to increase the amount of time available to you?
 - c. **Resources** -> Have you found methods that reduce the amount of resources needed to plan and conduct engagement without compromising other important factors like participation and representation? Have you identified resources that provide additional support for engagement activities?
 - d. **Lack of participation** -> Have you identified methods that encourage participation within the groups of stakeholders you engage with?

- e. **Lack of representation** -> What are you and your organization doing to encourage diversity and inclusion in your stakeholder engagement?
 - f. How do you decide which challenges and barriers to address?
5. Have you and your organization developed or used metrics to measure success within stakeholder engagement processes?
- a. **Yes** -> What do these metrics look like? Do you feel they capture the challenges and barriers you have discussed in the previous questions?
 - b. **No** -> Do you think you would benefit from having explicit measures of success in your engagement practices? Is there a need for better resources to measure success within engagement?
6. Are there any other comments you would like to make on the topics we've covered today? Is there anything we haven't asked you that you think we should?

Thank you very much! That is the end of the interview.

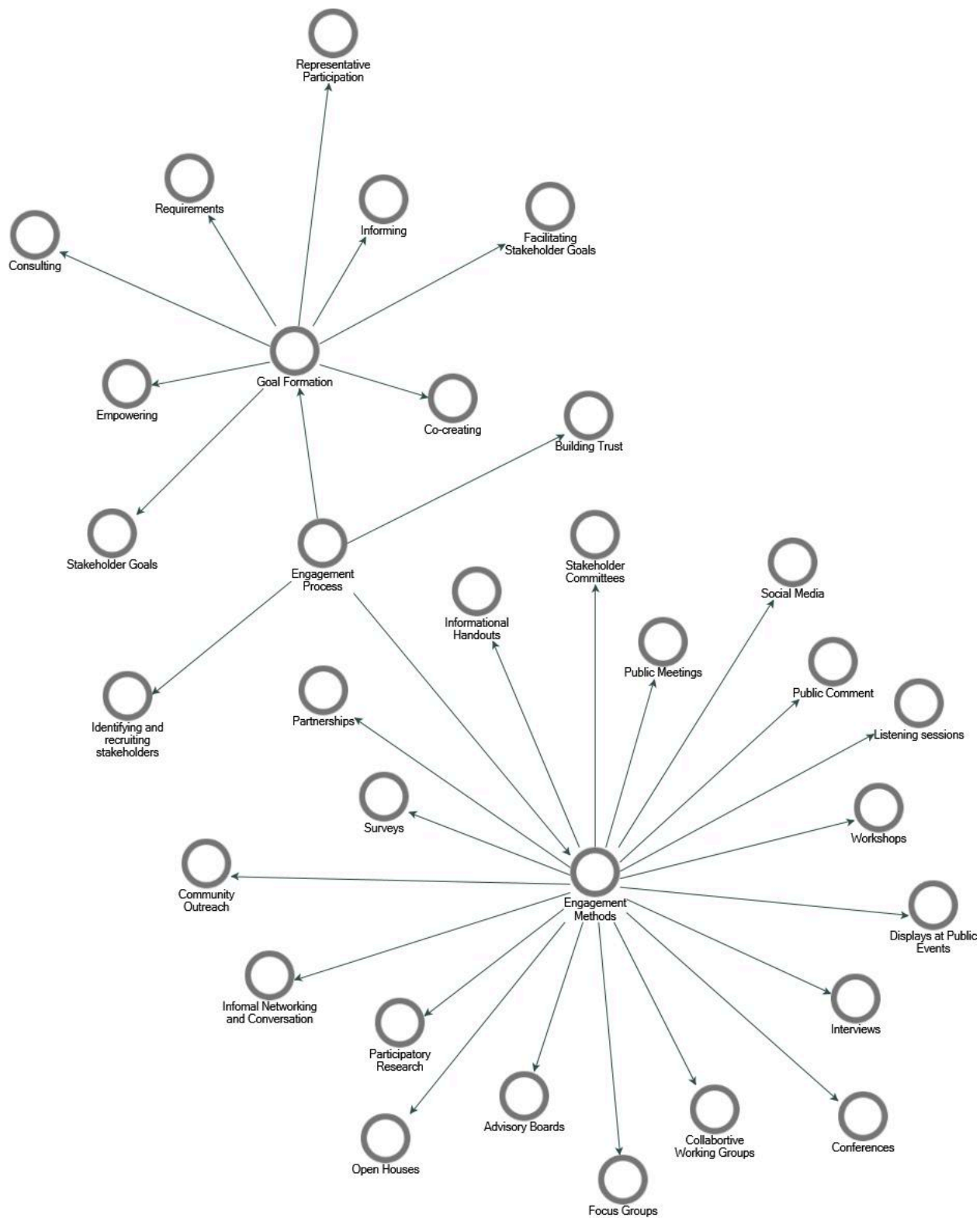
APPENDIX C: SURVEY RESPONDENT AGE DATA

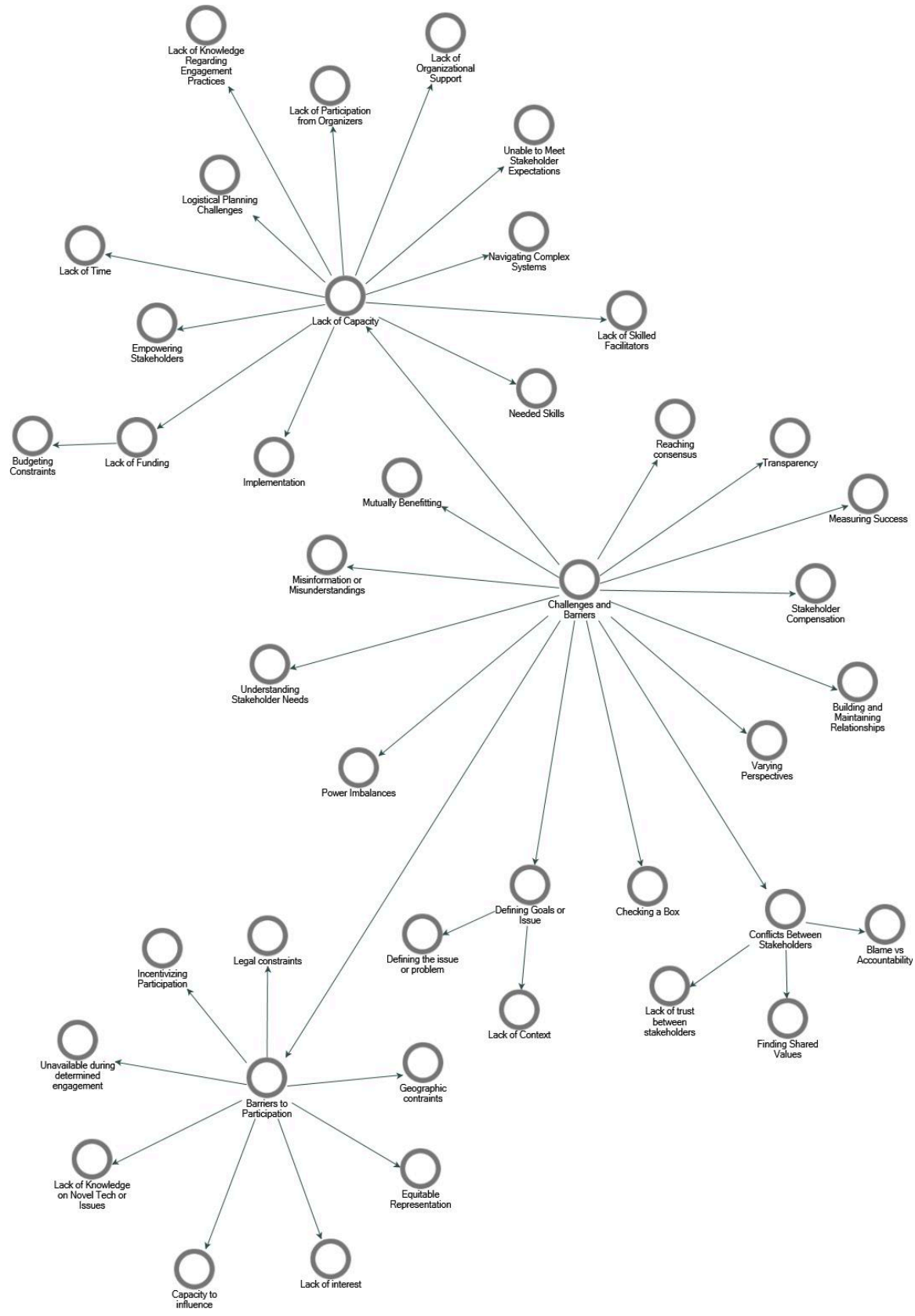
Respondent Age

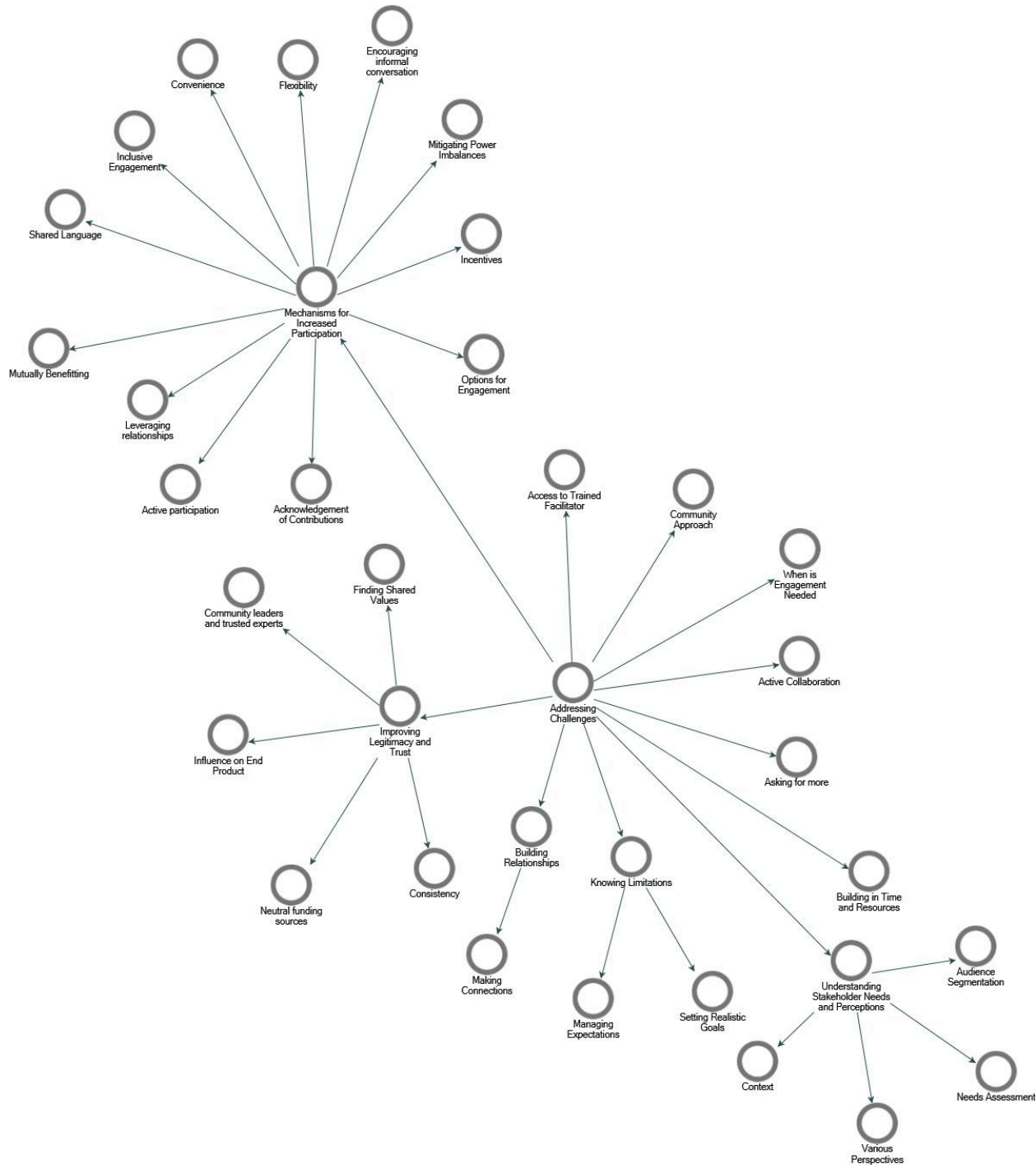


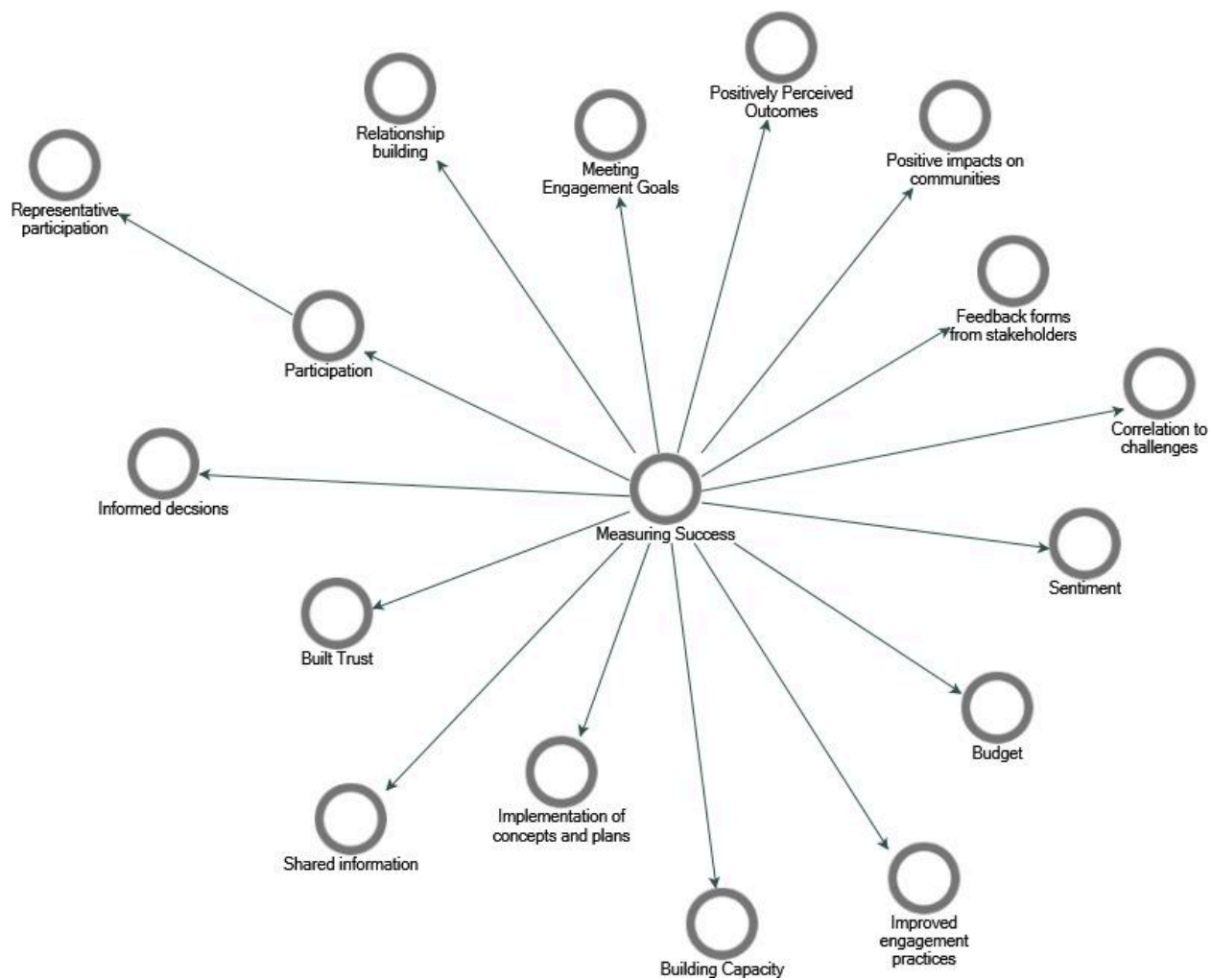
	Count	Percentage
18-24	1	0.83%
25-34	20	16.53%
35-44	35	28.93%
45-54	30	24.79%
55-64	16	13.22%
65 or older	17	14.05%
PNA	2	1.65%
Total	121	100.00%

APPENDIX D: INTERVIEW CODING STRUCTURES









APPENDIX E: INTERVIEW CODEBOOK

Codebook

Deductive Inductive

Name	Description
Addressing Challenges	Parent code to group ways that interviewees have addressed challenges
Access to Trained Facilitator	Participant discusses having a trained facilitator as a solution to a challenge addressed in the interview
Asking for more	Participant discusses asking organization, funders, or clients for more time and resources as a solution to a challenge addressed in the interview
Building in Time and Resources	Participant discusses actively building in more time and resources into the engagement process as a solution to a challenge addressed in the interview
Building Relationships	Participant discusses building relationships with stakeholders as a solution to a challenge addressed in the interview
Making Connections	Participant discusses using networks to make connections between stakeholders and helpful people as a solution to a challenge addressed in the interview
Community Approach	Participant discusses utilizing a community approach as a solution to a challenge addressed in the interview. This can mean centering communities in the engagement process as well

	as including interdisciplinary perspectives to include all impacted communities.
Improving Legitimacy and Trust	Participant discusses improving trust or legitimacy as a solution to a challenge addressed in the interview
Community leaders and trusted experts	Participant discusses working with trusted leaders or experts to build trust among stakeholders as a solution to a challenge addressed in the interview
Consistency	Participant discusses staying consistent with information and efforts to build trust as a solution to a challenge addressed in the interview
Finding Shared Values	Participant discusses finding shared values among stakeholders to build trust as a solution to a challenge addressed in the interview
Influence on End Product	Participant discusses ensuring stakeholders have influence on the end product or decision as a solution to a challenge addressed in the interview
Neutral funding sources	Participant discusses ensuring funding sources for engagement efforts are neutral to maintain legitimacy and trust as a solution to a challenge addressed in the interview
Knowing Limitations	Participant discusses knowing the limitations of engagement and stakeholders' decision-making power as a solution to a challenge addressed in the interview
Managing Expectations	Participant discusses being straightforward and transparent about limitations of engagement as a solution to a challenge addressed in the interview

Setting Realistic Goals	Participant discusses setting realistic goals for engagement as a solution to a challenge addressed in the interview
Mechanisms for Increased Participation	Parent code to identify codes where participants discuss ways in which to increase participation
Acknowledgement of Contributions	Participant discusses acknowledging stakeholder contributions as a solution to a challenge addressed in the interview
Active participation	Participant discusses utilizing engaging techniques to involve stakeholders during activities (games, icebreakers, etc) as a solution to a challenge addressed in the interview
Convenience	Participant discusses ensuring engagement activities are convenient to stakeholders as a solution to a challenge addressed in the interview
Encouraging informal conversation	Participant discusses having opportunities for informal conversation and relationship building as a solution to a challenge addressed in the interview
Flexibility	Participant discusses maintaining flexibility with stakeholders throughout the engagement process as a solution to a challenge addressed in the interview
Incentives	Participant discusses offering incentives (food, prizes, compensation, etc) as a solution to a challenge addressed in the interview
Inclusive Engagement	Participant discusses including a diverse group of stakeholders and ensuring they feel included as a solution to a challenge addressed in the interview
Leveraging relationships	Participant discusses using networks to expand recruitment efforts as a solution to a challenge addressed in the interview

Mitigating Power Imbalances	Participant discusses using techniques to mitigate power imbalances between stakeholders as a solution to a challenge addressed in the interview
Mutually Benefitting	Participant discusses ensuring all parties are involved are benefitting from engagement as a solution to a challenge addressed in the interview
Options for Engagement	Participant discusses ensuring there are different modes of engagement to accommodate different stakeholders (recordings, online participation, in person participation, etc) as a solution to a challenge addressed in the interview
Shared Language	Participant discusses identifying shared language and places where language deviates as a solution to a challenge addressed in the interview
Understanding Stakeholder Needs and Perceptions	Participant discusses working to understand stakeholder needs at the beginning of the engagement process as a solution to a challenge addressed in the interview
Audience Segmentation	Participant discusses separating the public or other stakeholder groups to understand how needs differ as a solution to a challenge addressed in the interview
Context	Participant discusses understanding context prior to recruiting and engaging stakeholders as a solution to a challenge addressed in the interview
Needs Assessment	Participant discusses conducting a formal needs assessment as a solution to a challenge addressed in the interview

Various Perspectives	Participant discusses understanding the different perspectives and needs as a solution to a challenge addressed in the interview
When is Engagement Needed	Participant discusses understanding when engagement is not necessary as a solution to a challenge addressed in the interview
Challenges and Barriers	Parent code to group codes that identify places where a participant discusses a specific challenge or barrier
Barriers to Participation	Parent code to group codes that identify specific barriers to stakeholders participating in engagement processes
Capacity to influence	Participant discusses stakeholders believing they have no influence over final outcomes or decisions as a barrier to participation
Equitable Representation	Participant discusses having difficulty identifying and recruiting stakeholders that equitably represent the individuals or groups
Geographic constraints	Participant discusses stakeholders not being in the same geographic region as a barrier to participation
Incentivizing Participation	Participant discusses not being able to offer attractive incentives as a barrier to participation
Lack of interest	Participant discusses stakeholders not having an interest in engagement goals as a barrier to participation
Lack of Knowledge on Novel Tech or Issues	Participant discusses stakeholders feeling like they don't have enough knowledge about a new technology or policy as a barrier to participation

Legal constraints	Participant discusses stakeholders not being able to effectively contribute to engagement because of legal constraints as a barrier to participation
Unavailable during determined engagement	Participant discusses stakeholders not being available during the scheduled activities as a barrier to participation (working, taking care of children, etc.)
Building and Maintaining Relationships	Participant discusses finding it difficult to build and maintain relationships with stakeholders as a challenge to engagement
Checking a Box	Participant discusses feeling like they are only meeting requirements or checking a box, making engagement practices ineffective or incomplete
Conflicts Between Stakeholders	Participant discusses conflicts between stakeholders has a major challenge to navigate when conducting engagement
Blame vs Accountability	Participant discusses stakeholders engaging in conflicts due to blaming others for problems
Finding Shared Values	Participant discusses finding it challenging to identify shared values among conflicting stakeholders
Lack of trust between stakeholders	Participant discusses stakeholders engaging in conflicts because of a lack of trust between groups and individuals
Defining Goals or Issue	Participant discusses finding it challenging to identify the goals of engagement or the core issue
Defining the issue or problem	Participant discusses finding it challenging to define the problem with stakeholders and a shared definition that stakeholders can agree on

Lack of Context	Participant discusses not having enough context to adequately establish engagement goals and processes
Lack of Capacity	Participant discusses not having the capacity to effectively plan and conduct engagement
Empowering Stakeholders	Participant discusses finding it difficult to transition from engaging with stakeholders to empowering stakeholders to move forward without organizers
Implementation	Participant discusses finding it difficult to effectively and meaningfully implement stakeholder perspectives and ideas into the outcome or decision
Lack of Funding	Participant discusses not having enough funding to effectively engage stakeholders
Budgeting Constraints	Participant discusses not budgeting enough funding into engagement process
Lack of Knowledge Regarding Engagement Practices	Participant discusses feeling like they or their colleagues do not have the necessary knowledge or capacity to gain knowledge to plan and conduct effective engagement
Lack of Organizational Support	Participant discusses lack of support from organization as a challenge to conducting effective engagement
Lack of Participation from Organizers	Participant discusses organizers or leaders not effectively involving stakeholders during engagement activities
Lack of Skilled Facilitators	Participant discusses not having access to a skilled facilitator as a challenge of conducting effective engagement

Lack of Time	Participant discusses not having enough time to effectively plan and conduct engagement activities
Logistical Planning Challenges	Participant discusses logistical challenges that impede their ability to plan and conduct effective engagement (permissions, forms, administrative burdens, etc.)
Navigating Complex Systems	Participant discusses finding it difficult to navigate complex systems to ensure stakeholder needs and perspectives are adequately incorporated into outcomes (government, hierarchies, etc.)
Needed Skills	Participant discusses finding it difficult to ensure that they and colleagues have the necessary skills to effectively communicate with stakeholders
Unable to Meet Stakeholder Expectations	Participant discusses not having the capacity to meet stakeholder expectations of engagement as a challenge
Measuring Success	Participant discusses being able to measure success as a challenge in engagement
Misinformation or Misunderstandings	Participant discusses misinformation or miscommunications as a barrier to effective engagement
Mutually Benefitting	Participant discusses finding it difficult to identify ways in which all parties can benefit from engagement
Power Imbalances	Participant discusses power imbalances between stakeholders being a barrier to effective engagement
Reaching consensus	Participant discusses being unable to reach a consensus among diverse stakeholder groups as a barrier to effective engagement

Stakeholder Compensation	Participant discusses stakeholder compensation (specifically monetarily) as a challenge, whether it be because they cannot compensate when they feel it is necessary or they feel that it can affect stakeholder participation
Transparency	Participant discusses ensuring transparency from all parties involved (practitioners and stakeholders) is a challenge of engagement
Understanding Stakeholder Needs	Participant discusses being unable to fully understand stakeholder needs as a challenge to their engagement process
Varying Perspectives	Participant discusses having too many different perspectives as a challenge to effective engagement
Engagement Process	Parent code to identify places where participant discusses their process for engagement (activities, goals, identification, key considerations, etc.)
Building Trust	Participant discusses trust as a key piece of the stakeholder engagement process
Engagement Methods	Parent code to identify the different types of engagement activities participants have used to engage stakeholders
Advisory Boards	Participant discusses using advisory boards as a method of engagement (groups of stakeholders that oversee research or policy efforts and have some decision making power)
Collaborative Working Groups	Participant discusses using collaborative working groups as a method of engagement
Community Outreach	Participant discusses using community outreach techniques as a method of engagement

Conferences	Participant discusses using conferences as a method of engagement
Displays at Public Events	Participant discusses using displays at public events as a method of engagement (posters, information tables, demonstrations, etc.)
Focus Groups	Participant discusses using focus groups as a method of engagement
Informal Networking and Conversation	Participant discusses using informal networking and conversation as a method of engagement
Informational Handouts	Participant discusses using informational handouts as a method of engagement
Interviews	Participant discusses using interviews as a method of engagement
Listening sessions	Participant discusses using listening sessions as a method of engagement
Open Houses	Participant discusses using open houses as a method of engagement
Participatory Research	Participant discusses using participatory research as a method of engagement (stakeholders actively involved in research process and outcomes)
Partnerships	Participant discusses using partnerships as a method of engagement
Public Comment	Participant discusses using public comment as a method of engagement

Public Meetings	Participant discusses using public meetings as a method of engagement (events that are open to all stakeholders and publics)
Social Media	Participant discusses using social media as a method of engagement
Stakeholder Committees	Participant discusses using stakeholder committees as a method of engagement (committees made up of different stakeholder groups to share perspectives and needs)
Surveys	Participant discusses using surveys as a method of engagement
Workshops	Participant discusses using workshops as a method of engagement
Goal Formation	Stakeholder discusses their process of forming goals of their project or engagement
Co-creating	Participant discusses an engagement activity or process that involves working with stakeholders to co-create knowledge surrounding a decision, intervention, technology, etc
Consulting	Participant discusses an engagement activity or process that involves seeking feedback from stakeholders on decision, intervention, technology, etc
Empowering	Participant discusses an engagement process that results in stakeholders ultimately having final decision making power
Facilitating Stakeholder Goals	Participant's goal of engagement is to facilitate stakeholder goals to meet needs
Informing	Participant discusses an engagement activity or process that involves educating stakeholders on decision, intervention, technology, etc

Representative Participation	Participant's goal is to have equitable participation in engagement to create an outcome that meets the needs of many stakeholders
Requirements	Participant's goals are based on requirements from outside sources (funder, organization, client, etc.)
Stakeholder Goals	Participant's goals are based on stakeholder goals
Identifying and recruiting stakeholders	Participant discusses their process for identifying and recruiting stakeholders
Measuring Success	Participant codes to identify themes among participant responses to the ways in which they measure success within their engagement
Budget	Participant describes staying within allotted budget as a measure of success in engagement
Building Capacity	Participant describes building capacity within organization or among stakeholders to engage further and create desired outcomes as a measure of success in engagement
Correlation to challenges	Participant describes a way in which their measure of success correlates to challenges described previously (when measures help practitioners understand their challenges better)
Feedback forms from stakeholders	Participant describes using feedback forms from stakeholders as a way to measure success in engagement
Implementation of concepts and plans	Participant describes being able to implement concepts and plans generated by stakeholders as a measure of success in engagement

Improved engagement practices	Participant describes using previous engagement lessons to improve engagement practices as a measure of success in engagement
Informed decisions	Participant describes stakeholders being able to inform decisions or outcomes as a measure of success in engagement
Meeting Engagement Goals	Participant describes meeting engagement or project goals as a measure of success in engagement
Participation	Participant describes using number of participants as a measure of success in engagement
Representative participation	Participant describes understanding whether participants were representative of all stakeholder groups as a measure of success in engagement
Positive impacts on communities	Participant describes whether engagement had a positive impact on affected communities as a measure of success in engagement
Positively Perceived Outcomes	Participant describes outcomes that are positively perceived by stakeholders as a measure of success in engagement
Relationship building	Participant describes relationships formed among stakeholders and practitioners as a measure of success in engagement
Sentiment	Participant describes measuring sentiment over time as a measure of success in engagement
Shared information	Participant describes being able to effectively share information with stakeholders as a measure of success in engagement