Design for Stakeholder Value Identification in Multi-stakeholder Projects

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Integrated Product Design, TU Delft

Master Thesis

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Preface

Six months before being involving into this assignment, I failed in my first graduation project. I felt so complex at the moment when knowing that I could do this project as my graduation project. I was happy that I got a new chance. I was excited to be involved with such a big project with many experts from different field. And the topic of this graduation project is so new to me. Even though I was interested in it, I felt so nervous, worried, and not confident because I have failed once. But thankfully, I come to the final stop finally.

First and foremost, I would like to thank my supervisors, Marina and Abhigyan. Thank you for your feedbacks which always make my thoughts clearer after each meeting. Thank you for your guidance through the whole project. Thank you for being so patient to each long-time meeting. I can remember that you spent almost a whole afternoon to help me find directions on the Greenlight meeting. Thank you so much for all your support, your encouragement on my small improvements. Each time I saw some positive feedbacks on my reports, I felt so motivated and more confident. I am so grateful to have you as my supervisors in the last but most important project of my study life.

Thanks to Hans Roeland who has been the mentor from AMS Institute. Thank you for giving me this opportunity to be in the LIFE project team. Thank you for giving me so many valuable information, which helped me a lot during the research process. And thank you for always give me valuable and practical feedbacks on each of my ideas. Thank you for all your time spent on my project!

Thank you, Esther, for always accept my invitation on meetings, tests, giving feedbacks…Thank you so much for spending so much time on helping me. You are always so sincere to share your thoughts and experience, and you are always trying to take care of me when I was new to LIFE project. I am so lucky to meet you at the LIFE project.

Thanks to Avi, Diede, Wouter, Digvijay, and to all of the experts and colleagues working together in the LIFE project. Thanks for your corporation and all the feedbacks, encouragements that helped me go through each difficulty in the project.

I want to sincerely thanks all of my friends who helped me a lot with this project. Thank you, Xingyu, Zixi, Xiaonan, Zhenlu, Xiangjun, Peixin… Thanks for discussing with me and being with me at each tough time along the way. I wouldn't be able to get through those difficult and confusing times alone without you.

I want to thank my parents. 谢谢你们，爸爸妈妈！谢谢你们在我失败的时候支持我、鼓励我，心疼我。谢谢你们所有的关心和疼爱。我爱你们 💗

Lastly, I want to thank myself for the brave and perseverance. Thank you for bravely stepping into a new field of study. I will always remember this important and unforgettable experience.

严堇楠

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Jinnan Yan
January 12th, 2023

Executive summary

With the rapid development of society, complex problems are becoming increasingly visible such as climate change, energy shortage, poverty, and migration. Many organizations are cooperating together to solve these problems because it is impossible for one organization to handle all the different expertise and skills. The projects that consist of lots of organizations working together to solve problems can be called multi-stakeholder projects. It appears aiming to solve complex social challenges of sustainable development. With multiple stakeholders, the stakeholder management becomes more difficult. It is essential to know what does each stakeholder desires for enhancing collaboration and satisfying stakeholders. Among these desires, stakeholders desired values are crucial to identify because values are the reason behind stakeholders' actions and decisions.

The LIFE project is a typical multi-stakeholder project initiate by the City of Amsterdam and AMS Institute as the leader of Stakeholder Engagement and Inclusion. As an important part of stakeholder engagement in multi-stakeholder projects, this project aims to make contributions in identifying stakeholders' desired values in the multi-stakeholder project.

The Barrett Model about organizational values is the key academic support of this project. It's used as materials to build the concept structure and as the basic for developing details of concepts. Literature from some other fields has been studied in this project to generate insights for eliciting desired values from stakeholders.

This project ends with a final strategy concept, the Stakeholder Value Identification (SVI) Process, which applies various intervention to increase stakeholders' willingness and ability to express their desired values and uses a closed-ended task as the core of the concept. The concept could be used not only in this stage of the LIFE project but also other stages, as well as other multi-stakeholder projects.

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1. Introduction

This chapter introduces the project by first explaining the broader context, the multi-stakeholder projects. Then, the necessity of identifying stakeholders desired values is introduced. This leads to the introduction of the research question and related sub questions. Finally, the project approach is presented to illustrate different design phase.

1.1 Project background

With the rapid development of society, complex problems are becoming increasingly visible such as climate change, energy shortage, poverty, and migration. For many organizations that used to manufacture their products or service, it is impossible to solve these problems. Because it is impossible for one organization to have all the expertise, knowledge, and skills to develop solutions to those challenges alone (Lusch et al., 2010). To deal with the challenges these complex problems are posing, collaborations between multiple stakeholders are indispensable.

To exceed the innovation, technology, networks, and problem-solving skills of individual actors, multi-stakeholder partnerships (MSPs) appear as a new form aiming to solve complex social challenges of sustainable development by building collaboration and running projects with engaged stakeholders (Stadtler, 2010). In recent years, an increasing number of collaborative projects happened between government bodies, businesses, and civil society organizations to boost sustainable development in different industries (Momen, 2020). In the energy industry, the Local Inclusive Future Energy (LIFE) project is one of those projects where different types of stakeholders cooperate together to contribute to the Dutch energy transition. This new type of project enables new relationship between stakeholders, then enabled new ways of stakeholder management.

As Brouwer (2016) stated, in projects which have multiple stakeholders, governance is required to change the cooperation to a more participatory way. And it is necessary to make each stakeholder feel valued and respected. Therefore, new ways of managing and organizing stakeholders are required to 'unlock people's potential to cooperate and innovate for social and environmental good' (Brouwer et al., 2016).

Identifying stakeholders is a critical step and could either bias or help provide an objective impact assessment according to Guillermo et al. (2009). And value perspectives of stakeholders are the main factor for Understanding and Identifying them (van der Waal et al., 2020). Each organization comes to a multi-stakeholder project with different interests, desires, responsibilities, technical language, communication styles, and constraints. Among these elements, desires are seen as crucial when regarding satisfying stakeholders (Maignan et al., 2005). Stakeholder satisfaction depends on whether their desires can be satisfied. Therefore, identifying stakeholders desired values is important for not only assessment but also for satisfying them.

In conclusion, complex problems and challenges enable the collaboration of multiple stakeholders, which is called multi-stakeholder partnerships (MSPs). The need of building new types of stakeholder management emerged from multi-stakeholder projects. And the value identification of organizations that play a role in multi-stakeholder projects is seen as an important step in stakeholder management.

With a range of different people and organizations with different backgrounds working together, the LIFE project was formed as a typical multi-stakeholder project. As a key aspect of multi-stakeholder projects, stakeholder management is a complex and changeful task. A project management team was formed to manage activities and carry the project forward. Besides the project management team, the Stakeholder Engagement and Inclusion (SEI) team was built in the LIFE project and led by manager GO from AMS Institute to achieve the goal of engaging stakeholders in scoping activities to identify what stakeholders' desire to acquire. The SEI team of LIFE project proposed the assignment to enhance their stakeholder management process because they have recognized that each stakeholder is primarily focused on their own values according to the LIFE Project Proposal, letting them see the importance of identifying stakeholders' desired values because of the emergence of conflicting interests represented by different stakeholders. Further, developing a structured process and approach for this type of project and making a long-term impact on other similar projects is one of the key results of the LIFE project. In addition, stakeholders in the LIFE project are all presenting as organizations rather than individuals. Therefore, they are looking for a way to identify stakeholders' organizational values that they want to get in the LIFE project.

This leads to the following research question:

How can values that stakeholders want to get be identified in LIFE, a multi-stakeholder project context?

To contribute to answering this research question, I conducted two rounds of research:

First of all, the theoretical background research aims to define what is meant by the different parts of the research question and to investigate what is already known about this in the literature so that this graduation project can chase on that. This is done by answering the following sub-questions:

- What does the Multi-stakeholder Project mean?
- What is the meaning of value, organizational values, and stakeholders' desired values?
- What is the role of identifying stakeholders' desired values in multi-stakeholder projects?

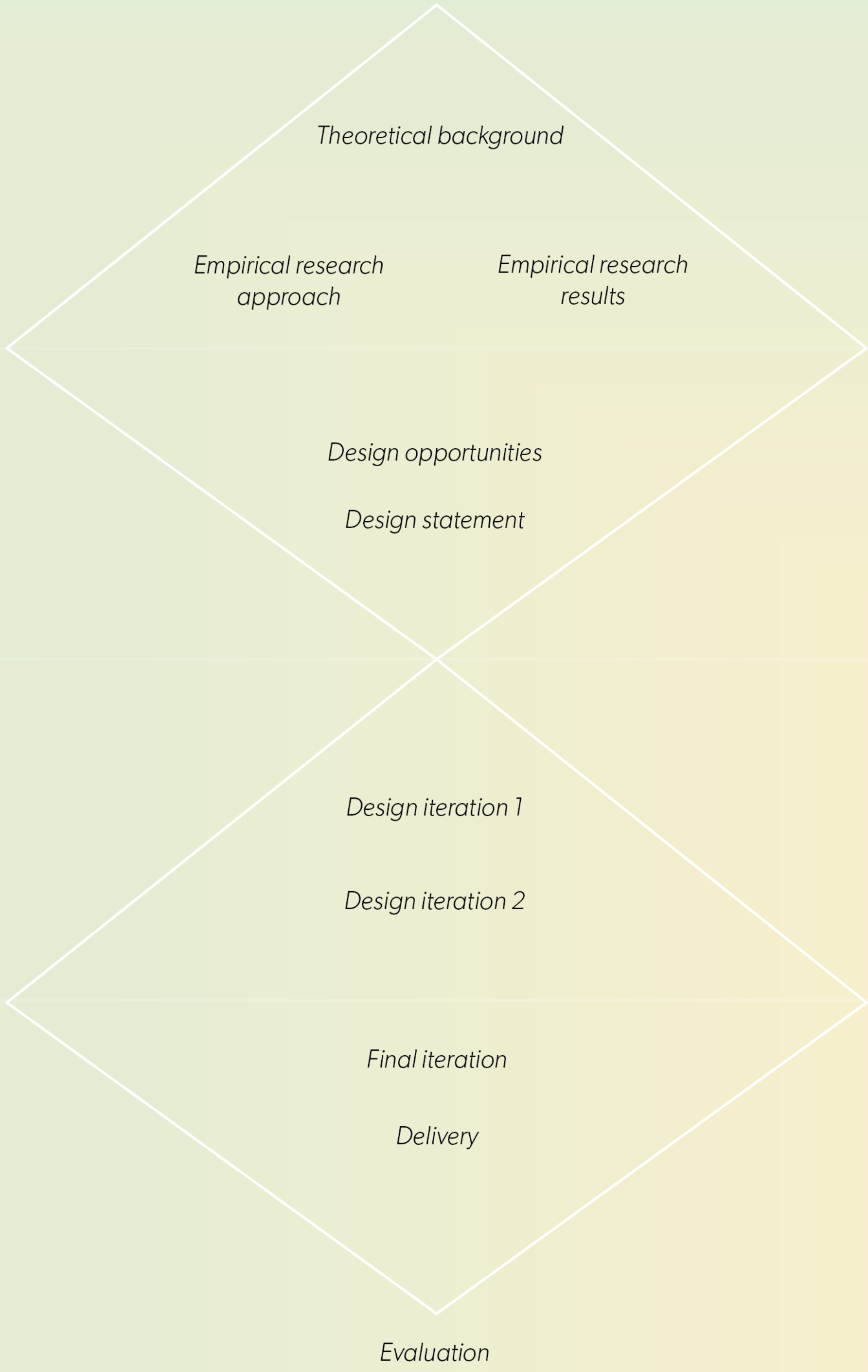
Secondly, to find out what is the situation of the current identification processes and what factors could influence this process, I conducted empirical research, aiming to answer the following sub-questions:

- Who are the stakeholders in the LIFE project?
- How is the approach of identifying stakeholders' values currently executed and experienced in the LIFE project?
- What factors will influence the process of identifying stakeholders' desired values?

This project specifically focuses on answering the research question not only for the LIFE project. The outcomes are also expected to be valuable for more projects that are also dealing with multi-stakeholder contexts.

1.2 Project process and report structure

To answer the research question, this project has used the Double Diamond design framework (British Design Council, 2015) as a basis for design approach and report structure. The double diamond framework can serve as a suitable guideline throughout the research and design process. Because this project does not use a linear design process, the model has been slightly adjusted to fit this specific assignment better. In addition, unlike the traditional linear model, the variant had three small iterations added in the Develop phase to show the iterative procedure explicitly. Based on this framework, this project approach can be presented in five stages.



Discover
The Discover phase contains Chapters 2, 3 and 4, aiming to review the knowledge in literature and dive into the context and problem. It contains a theoratical study to define terms in the reserarch question and three sessions of empirical research in the LIFE project.

Define
The Define phase contains Chapter 5. The Define phase was aimed to synthesize the information from the Discover phase and define the design goal. By gathering research findings, I created the design goal and design opportunities and provided directions for the later Develop phase.

Develop
The Develop phase is aiming to seek solutions to achieve the design goal, formulate the concept, test and evaluate to find improvement directions for the final design. There are three iteration sessions in this stage.

Deliver
The Deliver phase is aiming to present the improved design. In this phase, the final concept will be presented

Evaluation
Followed by the Delive phase, the Evaluation assessed the final design and discussed its feasibility, desirability, and viability.

2. Theoretical background

In this chapter, the current knowledge on topics related to the research question and sub-questions were presented. The first section is set up to introduce the theory around the multi-stakeholder project context. Then values and organizational values were introduced as the second part. Finally, it is briefly introduced what theories and methods are meaningful according to the literature.

2.1 Multi-stakeholder Project

In this section, the necessary terminology around Multi-stakeholder Projects will be defined. This helps to better understand what the context of this thesis is. Before a solution for identifying stakeholders' desired values in multi-stakeholder projects can be sought, it is important to set a common meaning and key elements of the context.

2.1.1 Multi-stakeholder partnerships

Multi-stakeholder partnerships at the global level emerged during the 1990 s as a new and innovative governance tool distinguishing from traditional intergovernmental cooperation (Pattberg & Widerberg, 2016). In 2002, the Multi-stakeholder Partnerships (MSPs) for sustainable development were announced at the World Summit on Sustainable Development in Johannesburg (Dodds F et al. 2002). Multi-stakeholder partnerships are generally defined as "a new form of partnership governance structure that brings different actors such as civil society, governments, international bodies, media, and academic or research institutions for sharing experience, information, technologies, and financial resources working toward a common solution" (Bäckstrand, 2006) and a collaborative form of governance (Rasche, 2012).

Multi-stakeholder partnerships are increasingly suggested as fundamental because of the sustainable development goals established by the United Nations in 2015 (Eweje et al., 2021).

This development has enriched the levels of MSPs, bringing MSPs from the global level to a national level to include stakeholders of different types (figure 2.1).

Levels	Stakeholders
Global level	Different countries and organizations across the globe
National level	Different organizations in one country

Figure 2.1: Different levels of MSP

For improving the performance of multi-stakeholder partnerships, Pattberg and Widerberg (2016) concluded nine conditions for successful multi-stakeholder partnerships and suggested that these aspects should be considered and taken into account throughout all stages of the partnership's process in future design, implementation, or evaluation of partnerships. In these nine conditions, "leadership" is worth mentioning for having close relativeness with this thesis.

Leadership: "Different leaderships are needed such as an entrepreneur or broker, 'convener' or 'orchestrator' to bring people to the table, mitigating diverging opinions, and driving the difficult start-up process forward."

2.1.2 Stakeholders in multi-stakeholder projects

The word "stakeholder" was firstly defined in the first usage at Stanford Research Institute with the meaning "groups without whose support the organization would cease to exist" (Freeman, 1983). One year later, Freeman defined stakeholder as any actor that can affect, or can be affected by, a decision or action" (Freeman, 1984). The use of the word 'stakeholder' implies that any such partnership should primarily bring together those with a 'stake' in achieving an objective.

Multi-stakeholder partnerships exist in projects where multiple stakeholders work together. As stated by Bäckstrand (2006), MSP is basically about participatory decision-making where all involved actors take ownership of all stages of decision-making. In other words, multiple stakeholders play the role of decision-makers together as project partners in multi-stakeholder projects. In multi-stakeholder projects, stakeholders form multi-stakeholder partnerships to co-governance the project. In multi-stakeholder partnerships, stakeholders can be clustered into different groups.

In a multi-stakeholder partnership, there are usually at least three sectors are involved: the public sector, civil society, the private sector, and academia (Partnerships 2030, 2022). Each will have a very different perspective based on its specific role, practical experience, and authority as part of wider society.

For instance, there were five clusters of stakeholders (figure 2.2) shown in the Sustainable Development Goals (SDGs) in South Africa: the government cluster for enabling and monitoring the environment; the business cluster for creating implementation; the Research & Design (R&D) cluster to provide knowledge, technologies, and innovation; the civil society cluster for creating advocacy and awareness; and the UN cluster to governance and support from an international perspective.

Figure 2.2: Five clusters of stakeholders in the SDGs in South Africa (Haywood, 2019).

However, it does not mean that all involved stakeholders are a part of the MSPs in multi-stakeholder partnerships. Because some stakeholders are involved as external parts of the project and do not join the process of decision-making. There are two big groups of stakeholders: internal stakeholders, and external stakeholders. Internal stakeholders formed as a consortium and build a multi-stakeholder partnership together to contribute to the project results. But external stakeholders are not a part of this partnership because they are not involved in the decision-making process.

2.2 Value, organizational values, and organizational desired values

After defining the context, it is important to define "organizational values", the key term mentioned in the research question. In order to define it, the word "values" should first be defined for this context.

2.2.1 Organizational values

According to Oxford Learners Dictionary (2022), "values" refers to "beliefs about what is right and wrong and what is important in life" (Oxford Learners Dictionary, 2022) such as freedom and cleanliness. Just like every human community, every organization has its own value system and values are one of the fundamentals of organizational culture (Gorenak, 2012). Friedman et al., (2006) defined values as "what a person or a group of people consider important in life". Generally, values in the term "organizational values" use this meaning. For example, van de Poel and Royakkers (2011) defined values as "lasting convictions or matters that people feel should be strived for in general and not just for themselves to be able to lead a good life or realize a good society". And Edwards and Cable (2009) stated that organizational values provide norms that specify how organizational members should behave and how organizational resources should be allocated.

2.2.2 Organizational desired values

Distinguishing from "beliefs", value refers to "the quality of being useful or important" when considering values that organizations desire in the multi-stakeholder project (Oxford Learners Dictionary, 2022). It could be uncountable or countable.

When considering value, there could be different levels (Bont, de, C et al., 2013). For example, a solution to solve the integration of immigrants can create value for immigrants, making them feel a sense of belonging at the individual level. It could also bring value to society such as equality and harmony that can make a better social environment. The word "value" can be viewed as "benefits" here.

2.2.3 Stakeholders' desired values in multi-stakeholder projects

Value in multi-stakeholder projects

In MSPs, value is always flowing. For example, in the European Medical Information Framework (EMIF) project which contains 57 public and private partners, a value-based process framework was concluded by Reopens et al. (2016). As shown in figure 2.3 value flows along the arrows from the network level to the stakeholder level.

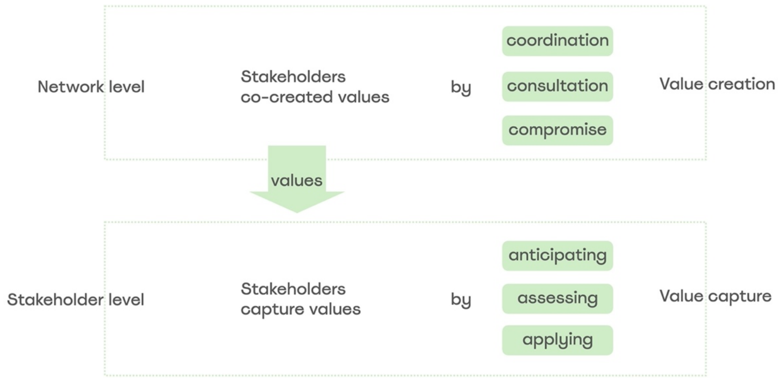


Figure 2.3: The overview of the framework (adapted from Reypens et al., 2016)

Stakeholders co-created values together at the network level and then each stakeholder can capture these outcomes and benefit from them at the stakeholder level. Stakeholders' desired values in the EMIF thus could be called value that stakeholders want to capture, as well as other projects that contain the process of value co-creation and value capture.

Importance of identifying stakeholders' desired value

Identifying stakeholders' desired value in multi-stakeholder projects is meaningful for stakeholders. It is obvious that each stakeholder has their desired values to join the multi-stakeholder projects. And values they captured during the project process determine their levels of satisfaction. If the value that each organization desires is clearly identified before co-creating values, it will be easier for each organization to be satisfied with the project and ultimately succeed in gaining the values they want.

From the project management perspective, identifying what stakeholders want to get is an important step of stakeholder identification, which is seen as the early step when considering stakeholder engagement. Among the literature about the stakeholder engagement process, Understanding/Identifying Stakeholders is seen as an indispensable and early step to engaging possible stakeholders. For example, in the Meaningful Stakeholder Engagement Process (Figure 2.4), Understanding stakeholders and their Wants and Needs is stage 2 (Jeffery, 2009). Identifying All the Key Stakeholders is the first step in the Stakeholder Engagement Process (Bal et al., 2013). Harrin

(2020) also places the Identification of stakeholders at the start point of the life circle of stakeholder engagement in Figure 2.5.

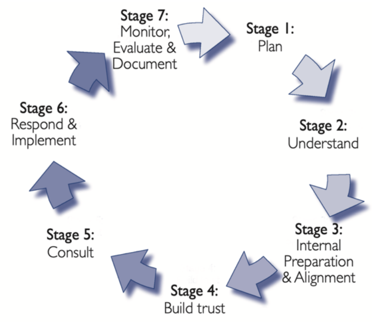


Figure 2.4: Stages In a Meaningful Stakeholder Engagement Process (Jeffery, 2009)

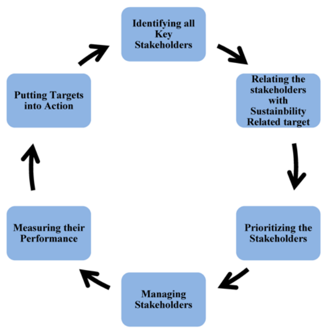


Figure 2.5: Project Stakeholder Engagement Process for Sustainability (Harrin, 2020)

Understanding the viewpoints on the expected results of all the involved stakeholders can contribute to the conclusion of a successful project (Watson et al., 2002). Figuring out the desired values is actually figuring out the organizational target results of stakeholders in the multi-stakeholder project. Therefore, it is essential to figure out and identify those values in advance. Stakeholders would not be satisfied if their desired values could not be obtained at the end of a project. Because enabling involved stakeholders to obtain the values they want in the project is a requirement for satisfying them.

From the project and partnerships level, identifying stakeholders' desired values is important as well. In the framework developed by Dentoni et al. (2018), value conflict was viewed as one of three key dimensions of wicked problems. Identifying values could help with dealing with conflicts that emerged between stakeholders to solve problems.

2.3 Ways to cluster stakeholders' desired values

In this section, ways for clustering values that stakeholders desire were explored in order to understand how values could be grouped.

In a multi-stakeholder project, the value could be co-created by stakeholders and then be captured by them with the project development (Reopens et al., 2016). In research on the theme of value co-creation and value capture, researchers concluded different types of value. In the business field, goods-dominated projects usually mention the "value–in–use" and "value-in-exchange" (Vargo & Lusch, 2004, Vargo & Morgan, 2005, Vargo and Lusch, 2008). In this context, the value was created by firms and distributed in the market so that customers could capture value. And firms could gain monetary value such as profit for remaining their need of viability. In addition to financial value, the value of organizational reputation matters for firms as well (Swart et al., 2015). Both customers and firms could capture value in business activities but the value they want to get is different because individuals and firms value different values. This led to different levels of desired values even in one project: individual level and organizational level.

Den Ouden (2012) stated that value can be co-created by organizations involved in multi-stakeholder projects for their user and themselves, and finally generate sustainable value for society. To distinguish levels that value is perceived in the context of innovation, four distinct levels of value were proposed as shown in figure 2.6.

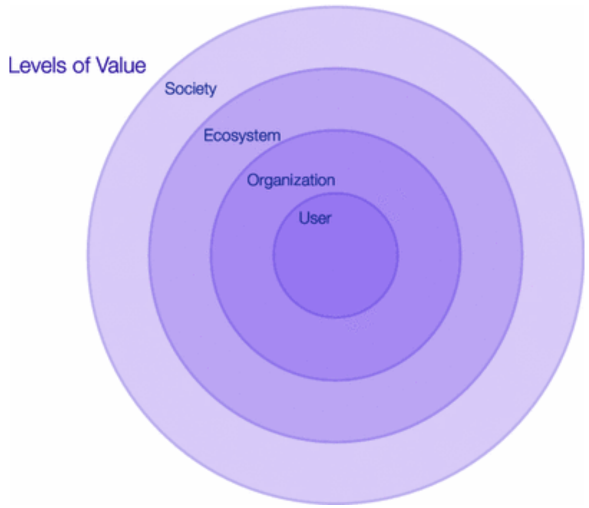


Figure 2.6: Four levels of value (Den Ouden, 2012)

Further, Den Ouden (2012) created a value framework that integrated four different perspectives (figure 2.7) on value: economic view, psychological view, Sociological view, and ecological view. This framework has been developed as a tool to support the process of creating value for multiple stakeholders within innovations.

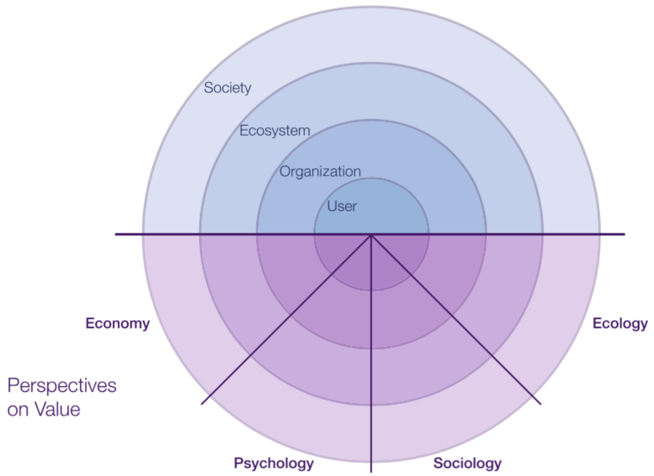


Figure 2.7: Four perspectives of value (Den Ouden, 2012)

From the organizational level, value concepts for each view were introduced in Table 2.8 regarding the context of this thesis.

Perspective	Value
Economical	Profit
Psychological	Core-values
Sociological	Social responsibility
Ecological	Eco-effectiveness

Table 2.8: Value at organizational level (adapted from Den Ouden, 2012)

The meaning of each value that organizations can capture from meaningful innovation has been explained by Den Ouden (2012):

"Profit: The economic value that companies strive for can be summarized as 'profit'."

"Core values: the core values of an organization represent its overall reason for being and provide the motivation for its management and employees to contribute to the creation of value with a narrow or wide scope."

"Social responsibility: a broad concern with the ultimate results of an organization's behavior on society (people and planet). What is considered as social responsibility is culture dependent."

"Eco-effectiveness: eco-friendly innovation at an organizational level. The importance to organizations of embarking on the 'green' journey is not just to avoid the risk of being labeled as a 'polluter', but also to create a positive agenda for goods and services that incorporate social, economic, and environmental benefits (Braungart et al. 2007)."

By proposing four different perspectives of value mentioned above, the Value Framework provides a direction of clustering value that organizations can get from innovation. It introduced the concepts of concrete value for the four perspectives as well.

However, there is only one value concept for each perspective at the organizational level listed in the framework which is limited to covering desired values of various stakeholders in the multi-stakeholder project context. Moreover, the four listed perspectives and value concepts at the organizational level are limited to fit different types of stakeholders. For example, the "profit" from the economical view is suitable to be seen as a desired value for companies or commercial organizations. But it is not appropriate to describe desired values of non-profit stakeholders such as institutional institutions and religious organizations.

Similar to Den Ouden, Barrett (2006) also developed a method of classifying value for objects of different levels from a personal level, organizational level, to the societal level. The Barrett organizational model was developed from Abraham Maslow's Hierarchy of Needs (Maslow, 1987), providing seven levels of Organizational Consciousness (see figure x) ranging from basic survival at one end to societal contribution at the other end.

Figure 2.9: seven organizational consciousness (Barrett, 2006)

For each level, the meaning was defined, and several value examples were given (table 2.10).

Level	Organizational Consciousness	Explanation	Value examples
1	Viability	Value that has an impact on the bottom line.	cost reduction, profit, financial stability
2	Relationships	Value that has an impact on interpersonal relationships and excellent internal communications	customers satisfaction customer collaboration, client focus, stakeholder relationship
3	Performance	Value that has an impact on performance	productivity, efficiency, quality
4	Evolution	Value that has an impact on the development of new products and services.	innovation, creativity, accountability, risk-taking
5	Alignment	Value that has an impact on the culture of the organization.	honesty, open communication, trust, commitment
6	Collaboration	Value that has an impact on influence the relationships with all stakeholders.	internal and external connectedness
7	Contribution	Value that has an impact on the long-term survival of the organization.	social responsibility, human rights, environmental awareness

Table 2.10: Seven levels of organizational consciousness and value examples (adapted from Barrett, 2006)

The Barrett Model provides a different view of categorizing value from the Value Framework Model of Den Ouden. It divided organizations' values into seven different levels, providing a clear way of grouping stakeholders’ desired values. The seven levels of organization value offer a more detailed way of categorizing the value of an organization compared to the four perspectives of value at an organizational level in Den Ouden’s Value Framework because the Barrett organizational model is designed progressively from surviving to contributing to society which covered a wide range of scales. For designing interventions to identify stakeholders’ desired values in multi-stakeholder projects, the Value Framework and the Barrett organizational model could be used together to have a complete and more structural basis.

2.4 Conclusion

To contribute to answering the research question, the theoretical background aimed to answer three sub-research questions.

With regard to the first sub-question “What does the Multi-stakeholder Project mean?”, it can be concluded that a multi-stakeholder project is a more complex type of project with some of the involved stakeholders forming multi-stakeholder partnerships to governance the project and make decisions together to achieve expected project results. Stakeholders can be grouped into different clusters based on their types. It is worth mentioning that not all of the stakeholders in a multi-stakeholder project play a role in MSPs such as organizations or individuals who play the role of customers of the products or services of project results.

Answering the second sub-question “What is the meaning of value, organizational values, and stakeholders' desired values?” It can be concluded that the value in “stakeholders’ desired value” uses the: benefits, importance, and worth, while the “value” in “organizational” values means beliefs about what is right and wrong and what is important for their organization.

Lastly, the insights regarding the third sub-question –“What is the role of identifying stakeholders’ desired values in multi-stakeholder projects?” will be discussed. Stakeholders’ desired values that they want to achieve in a multi-stakeholder project play an important role in the project value chain. It shows what values stakeholders want to capture from the project when they are co-creating values in the project. Further, identifying desired values of stakeholders is always seen as the beginning stage of conducting a multi-stakeholder project.

To answer the research question, the empirical research looks at how desired values of stakeholders are currently being identified in practice in the LIFE project.

3. Empirical research approach

To supplement the theoretical background, empirical research has been carried out at the LIFE project to contribute to answering research question and sub-questions. Internal documents were reviewed, and seven semi-structured interviews were carried out with people with different roles in LIFE project. This chapter describes the approach of conducting the empirical research and methods used in this approach.

3.1 Research design

As mentioned in the introduction chapter, the empirical research aimed to answer the following sub-questions to find out what is the situation of the current stakeholders' desired value identification processes and what factors could influence this process:

- Who are the stakeholders in the LIFE project?
- How is the approach of identifying stakeholders' values currently executed and experienced in the LIFE project?
- What factors will influence the process of identifying stakeholders' desired values?

There were three focus points in my empirical research, and they could be distinguished into three different parts: information at the project level, the LIFE project managers' perspective, and the stakeholders' perspective.

To understand the structure of stakeholders and their roles, it is important to gather information from the project level and gain knowledge from the managers' perspectives because managers play an important role in organizing the whole project and facilitating the project planning and progress.

To find problems in identifying stakeholders' desired values in the current situation, managers' perspectives and feedbacks on previous conducted activities related to stakeholders' identifying desired values are worth to collecte and analyze.

To supplement views from managers and broaden the perspective, the information disclosed from the stakeholders' side when facing the desired value identification process is also worth to be collected and understanding.

For this reason, the empirical research consisted of three parts. These three parts of empirical research covered information about stakeholders from both documents about the project and explanations from project managers, which led to an understanding of stakeholders' structures, roles, responsibilities, connections between them, etc.; detailed information about the previous activities related to stakeholders' desires identification from existing files and feedbacks given by conductors; and information disclosed by stakeholders about factors of influencing the stakeholders' desired value identification process.

The first part was conducted to gain knowledge about stakeholders in LIFE project. Internal documents were used as input materials for the Document analysis (Bowen, 2009) to gather basic information about stakeholders in LIFE project.

Semi-structured interviews (Patton, 2002). with LIFE project managers were carried out as supplement of project documents to gather whether there are differences between proposal and the reality and gain more knowledge about different groups of stakeholders. For the data collection, multiple sources were used to gain useful insights, but the two most important sources for data collection were internal documents and data from semi-structured interviews with project managers.

The second part of empirical research was to understand previous activities related to identify stakeholders' desires. Two semi-structured interviews with conductors of those activities were done in this part. Conductors of those previous activities were chosen because they know the most about the goals, methods, process, and results of these activities. For the data collection, there were two main resources: files that have been created during those activities. These files offered basic information about those activities such as the goal, planning of the approach, and results collected during the activities. The other was data collected during semi-structured interviews with conductors of those activities. It gave not only more concrete and detailed information about the situation of those activities but also feedbacks and reflections on the process and achieved results of those activities they conducted.

After understanding the strengths and weaknesses of previous activities, the third part of the empirical research was to explore what factors can influence the results of identifying stakeholders' desired values from both the managers' and stakeholders' sides. In this part, six semi-structured interviews were conducted with two project managers of the LIFE project and four contact persons from four different stakeholders. The managers were chosen as interviewees because they have a close connection with stakeholders when putting forward the LIFE project progress, so they have rich experiences in communicating with stakeholders in previous activities and daily working progress. The interviews conducted with managers were going to get their reflections on their previous experiences of communicating with stakeholders and identifying their desires. Interviews with contact persons from internal stakeholders were conducted because these contact persons are the representer of their organizations in the LIFE project and they are persons who have knowledge about both the LIFE project and their organizations. Therefore, it is worth understanding their behaviors when facing the process of identifying their organizational desired values.

3.2 Knowing stakeholders in LIFE project

This section is to introduce the approach of gaining basic knowledge about stakeholders in the LIFE project. The sub-question to answer is sub-question: Who are the stakeholders in the LIFE project? The overarching main goal of this research part of the LIFE project was to have basic knowledge of stakeholders in the LIFE project. As the beginning step of diving into the LIFE project context, this sub-question is mainly going to clarify who might be the target group when identifying stakeholders' desired values, and their roles, responsibilities, groups, and connections & differences between them.

The main resource for data collection during this section of the study at the LIFE project were internal documents and data from semi-structured interviews in which I used an interview guide as described by Patton (2002). Through the AMS Institute, I gained access to the internal documents of the LIFE project: (1) the *LIFE Project Proposal,* introduces information about the LIFE project background, planning, project stakeholders, and expected results of LIFE, etc. (2) *The LIFE Stakeholders,* gives connect information about stakeholders' contact persons and their level of interests in LIFE project. The two internal documents were reviewed because the type of information that was searched for was information about stakeholders which is always clarified at the beginning of multi-stakeholder projects (Brouwer, 2016). It was convenient and fast to gather this information type by analyzing the proposal of the project to have a basic knowledge about stakeholders. In addition, the information about stakeholders was rich and detailed in the LIFE Project Proposal, and the List of Stakeholders could give a clear overview of stakeholders. The semi-structured interview was conducted to check whether there were differences between description and planning in documents and the real situation when proceeding with the project. Because managers were responsible for the management of the project so that they knew the most about changes in the project. If there were gaps between the LIFE Project Proposal which was created at the beginning and the current situation in the project, managers would be the most suitable persons to ask for information. During the process of reviewing LIFE Project Proposal, data were collected by using the stakeholder characteristics table (figure 3.1).

Stakeholder	Group	Role	responsibility

Figure 3.1: stakeholders characteristics table (adapted from Schmeer, 1999)

In addition, Miro (figure 3.2) was used as the tool to organize connections and differences between stakeholders because there were more than stakeholders involved in the LIFE project and there was a need to place all of them on one page to find connections and differences between them. Miro was thus chosen as a tool to place collected data. (See high-quality image in Appendix 15)

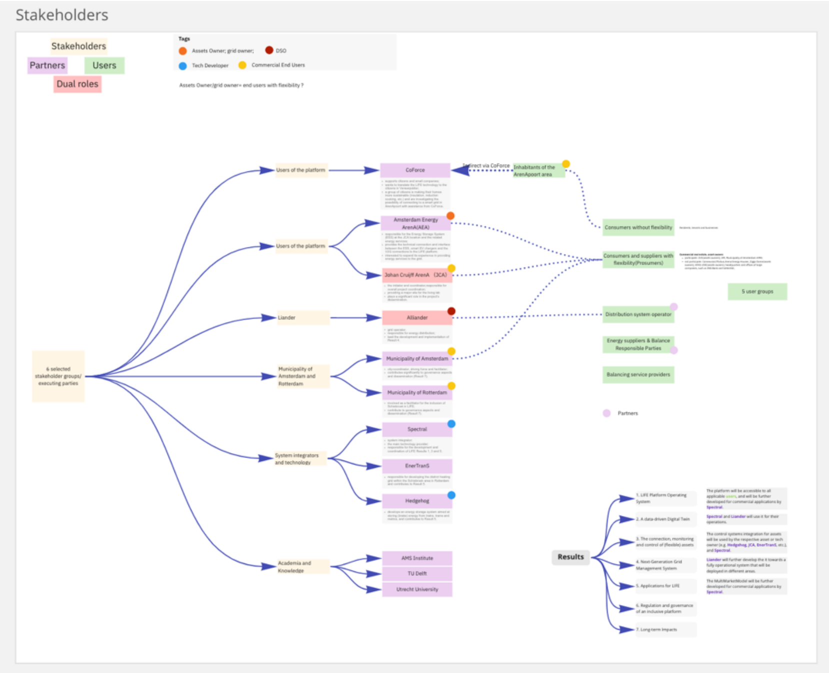


Figure 3.2: Placing collected data on Miro

Weekly visits to the office room of the LIFE project were made to work in the same environment with stakeholders and managers and correspond names to real persons, immersing myself in their context. The data about stakeholders collected from documents were used as a basis to develop an interview guide (Appendix 2) to gain more specifics and to check possible changes to get updated information about stakeholders from LIFE project managers.

The interviewees were two managers from the PM team. It is worth mentioning that the interview was conducted by me, and the two managers participated together rather than two separate sessions because the goal is to gain knowledge about stakeholders at that time and track changes. The combined session could bring communication between managers and avoid single-source information.

3.3 Analyzing previous activities and methods

The main research question explored in this part was the sub-question: How is the approach of identifying stakeholders' values currently executed and experienced in the LIFE project? The goal of this research was to explore the strengths and weaknesses of methods used in activities that are related to identifying stakeholders' desired values.

The main resource of data collection in this part were data from files of previous activities, observations during participation of these activities, and data from reflection sessions with conductors of those activities. According to weekly work at the LIFE project and meetings I attended, two series of activities were chosen because their topic was related to identifying stakeholders' desired values: the 1-on-1 interviews series of activities conducted at the beginning of the LIFE project by GO, the manager of the SEI team, and the Use Cases series of activities conducted by the PM team. Details of using these methods were introduced later in this section.

To conclude the strengths and weaknesses of the methods used in the One-on-one interviews series activities, the research approach followed four steps:

(1) As the first step, I reviewed documents (figure 3.3) about the activity series: 1-on-1 Interview Results, an excel table that contains stakeholders' answers to interview questions and Towards Shared Vision & Value Proposition which is a conclusion of the whole series created by the conductor GO, including the interview questions, interview approach, and three common missions of the co-creation session.

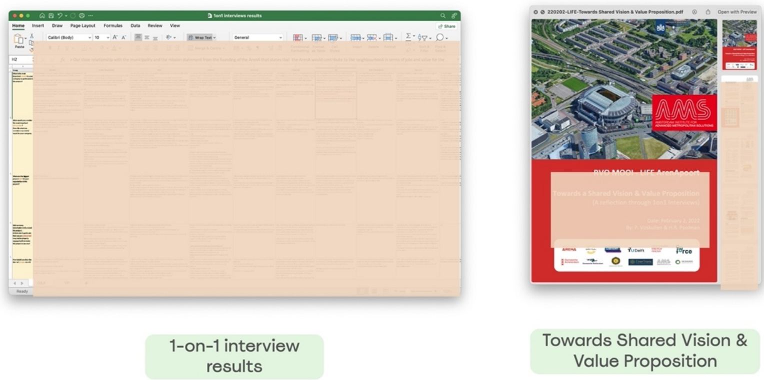


Figure 3.3: Documents from 1-on-1 Interview series of activities

(2) After reviewing the documents, I listed used methods that have been used in this activity series and hypotheses about the strengths & weaknesses of those methods in the second step.

(3) To prevent misunderstandings on document content and insufficient information due to the individual reviewing process, verify those listed hypotheses, and gain the conductor's reflection on the used methods, a reflection session was conducted with the conductor of this activity series, GO. All my hypotheses on strengths & weaknesses of used methods were discussed.

(4) At last, the strengths & weaknesses of the used methods in this series were concluded by combining my hypotheses and the conductors' reflection.

The research approach in the second series of activities followed the same four steps as the research approach in the first series from reviewing documents, listing methods and hypotheses, getting reflections from conductors, to concluding the strengths & weaknesses of the used methods. The document I reviewed for listing hypotheses on strengths & weaknesses of methods was Stakeholders' User Stories created by stakeholders of the LIFE project. Stakeholders' user stories represented what goals and values that they want to achieve in the LIFE project. And the interviewee in this session was the project management team who planned and conducted the whole series of activities. But there was a slight difference from the first series. For the Use Cases series of activities, Observation (Baker,2006) was used as an additional method in step 1. Because I had the opportunity to participate in this series of, taking notes and watching videos of meetings are the main ways to observe how the methods used in this series of activities. The table in figure 3.4 was used to document my observations.

Figure 3.4: Table for taking notes

In this part of empirical research, the participants (figure 3.5) of my semi-structured interviews were: GO, who conducted the 1-on-1 interviews series of activities; and the project management team of LIFE project who conducted the Use Case series of activities.

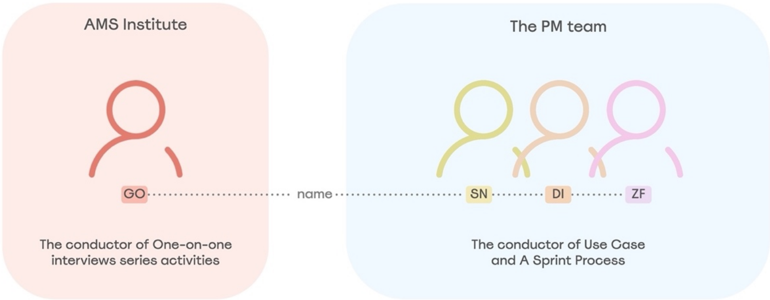


Figure 3.5: Composition of Interviewees

As an additional part, user stories created by stakeholders in the Use Cases series of activities were reviewed and clustered into different value categories based on four perspectives of organizational value from the Value Framework (Den Ouden,2012) and the Organizational seven levels of consciousness (Barrett, 2006).

In this part, I did two interview sessions in total:

1. Interviewing GO, the conductor of 1-on-1 Interview series of activities.

2. Interviewing two project managers, the conductors of Use Cases series of activities.

3.4 Understanding influential factors

The main research question explored in this part was: What factors will influence the process of identifying stakeholders' desired values? The goal of this research part was to explore the problems in the process of identifying stakeholders' desired values and factors that could influence this process.

Data collection

The main resource of data collection in this section was data collected from six semi-structured interviews. The interview guide (Appendix 3) was developed from a description created by Patton (2002). This method was chosen because the type of data I was searching for was qualitative information about managers' experiences, feelings, and reflections on previous experiences of communicating with stakeholders; and stakeholders' behaviours when facing the desired value identification process.

There were two groups of interviewees (figure 3.6) in the data collection part: managers and contact persons from organizations that are involved in the LIFE project as stakeholders. The managers were chosen as interviewees because they have close relations with stakeholders when establishing LIFE project progress, so they have extensive experience communicating with stakeholders in previous activities and daily working progress. The interviews with managers were intended to elicit their thoughts on previous experiences communicating with stakeholders and identifying their desires. Interviews with stakeholders' contact persons were carried out because these contact persons represent their organizations in the LIFE project and have knowledge of both the LIFE project and their organizations.

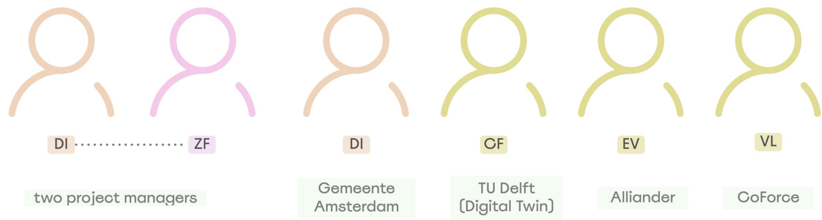


Figure 3.6: Interviewees

In interviews with managers, the focus was on their previous experience with communicating with stakeholders and identifying their desires in order to gain insight into what might have influenced the results that they achieved. However, when interviewing contact persons from stakeholders, I concentrated on the relevance of their responses and expression from both verbal and nonverbal perspectives.

3.5 Data analysis

The main methods I used for analyzing data were interpreting and clustering. Based on the transcripts, data from all the semi-structured interviews in the three research parts mentioned above were interpreted. The process of creating interpretation follows Ackoff's DIKW scheme (Ackoff, 1989). As explained in the book "Convivial toolbox" (B.- N. Sanders & Stappers, 2014). DIKW, which refers to data, information, knowledge, and wisdom, can help avoid common confusion between data, interpretations, theories, etc. As shown in figure 3.7, by interpreting data, it is possible to see that some interpretations stand out because many data can prove such interpretations. These interpretations were selected as the key insights.

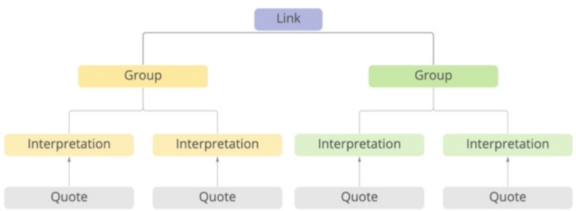


Figure 3.7: Interpreting and clustering

Data and the interpretation are formulated into statement cards (figure 3.8) and categories with the information from different data providers (provided by conductors, managers, and contact persons).

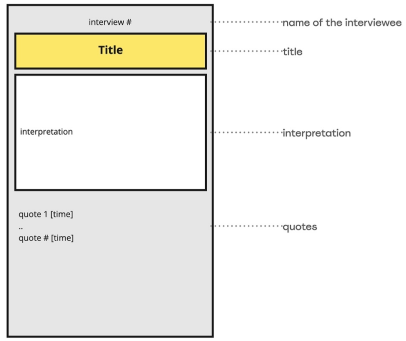


Figure 3.8: Components of a statement card

By clustering statement cards (figure 3.9), it is clear that some statement cards can be grouped because they are connected. These interpretations and connections are mapped and then concluded with research findings in the next chapter.

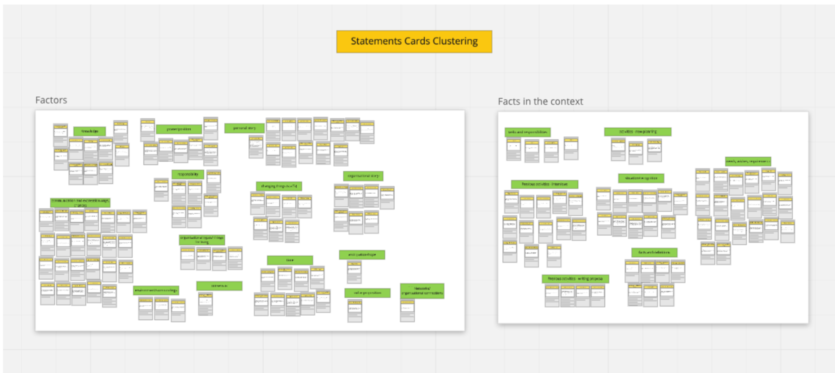


Figure 3.9: Clustered statement cards

4. Empirical research results

In this chapter, the insights from the empirical research are presented. Those results were used as input for the further development of the concept design, which will be described in chapter 5 and 6.

4.1 Stakeholders in the LIFE project

This section shows information about stakeholders in the LIFE project: who are they, connections, and differences between them. These results come from chapter 3.2.

As shown in figure 4.1, stakeholders in the LIFE project contain two main parts: internal stakeholders which contains the Project Management (PM) team and five different stakeholder groups who are existing project partners, and external stakeholders who might join the LIFE project in the future.

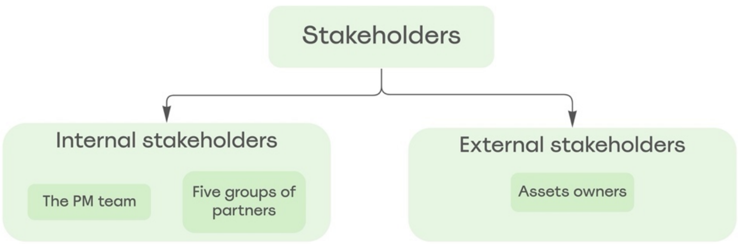


Figure 4.1: Composition of stakeholders

4.1.1 Internal stakeholders

Internal stakeholders consist of two groups: The Project management team and five groups of project partners.

The Project Management (PM) team

The Project Management (PM) team is responsible for the activity and financial management of the project, and the progress in the Results and activities. The PM team consists of three managers (figure 4.2): D.I. from the City of Amsterdam; Z.F., hired from Resourcefully, a project-management and consulting firm; and SN from the Johan Cruijff ArenA (JCA).

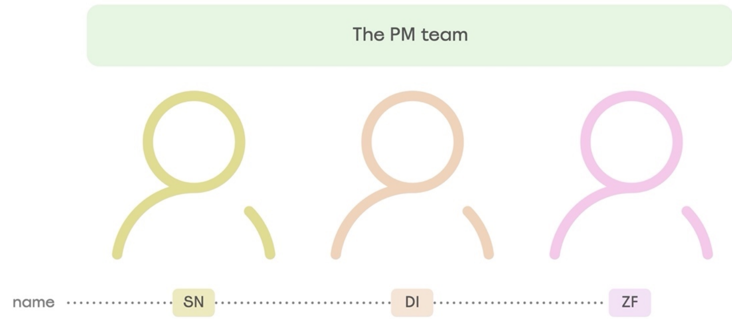


Figure 4.2: The project management team

Apart from the quality control process of project development and deliverables, the PM team is also responsible for contacting contact persons from stakeholders.

"As a project management team, we have three (managers). And then we have a set contact with a work package leader, SN is responsible for spectral, and DI is responsible for AMS and Utrecht University. And I'm responsible for the Alliander and TU Delft." -ZF

Project Partners

Internal stakeholders are all project partners, and they can be divided into 5 groups as shown in figure 4.3 (See gigh-quality image in Appendix 15):

Group		Stakeholder	Logo	Roles	Responsibility	Connect to the result
1	Alliander	Alliander	alliander	Grid owner; Grid operator; Distribution system operator (DSO).	the partner with energy distribution responsibility. lead the development and implementation of Result 4.	3, 4, 5, 6 and 7
2	Municipalities	Amsterdam	Gemeente Amsterdam	Policy maker; Project initiator; legistator.	participates as city-coordinator, driving force and facilitator; fills and safeguards the Governance aspects in this public-private partnership.	6, 7
		Rotterdam	Gemeente Rotterdam	Policy maker; Legistator.	contributes to the LIFE project as a sounding board and help evaluate the results of the projects in regards to municipality goals like natural gas-free; sharing of the gained knowledge, dissemination and active knowledge exchange with the municipality of Amsterdam	6, 7
3	System integrators and technology developers	Spectral	SPECTRAL	Technology developer; the lead system integrator;	responsible for the development and coordination of LIFE Results 1, 3 and 5.	all
		EnerTranS	EnerTranS	Supporter	responsible for developing the district heating grid within the Schiebroek area in Rotterdam and contributes to Result 5.	3, 6 and 7
		Hedgehog	HEDGEHOG Applications	Supporter	developing an energy storage system aimed at storing (brake) energy from trains, trams and metros, and contributes to Result 5.	3, 6 and 7
4	Academia and Knowledge institutions	AMS	AMS	Research partner	social engagement and dissemination	6, 7
		TU Delft	TU Delft	Research partner; Technology developer;	responsible for the development and coordination of Result 2, the digital twin model; contribute to the research of stakeholder engagement and inclusion.	2, 4, 5, 6 and 7
		Utrecht University	Utrecht University	Research partner	responsible for the development and coordination of Result 6, new governance structures and replication.	6, 7
5	End Users	JCA	Johan Cruijff ARENA	Asset owner; Project initiator; End user.	responsible for overall project coordination, providing a major site for the living lab, and plays a significant role in the project's dissemination.	6, 7
		CoForce	CoForce	User platform; The agency to connect local small users.	engages the residents of Venserpolder for the project by contributing to Results 1, 2, 3, 6 and 7. local inhabitants within the ArenAPoort will be approached to participate in the project through partner CoForce	1, 2, 3, 6 and 7

Figure 4.3: Project partners

These stakeholders were categorized into 5 groups in *the LIFE Project Proposal* based on their types and roles in the LIFE project, and they can be further clustered to four different clusters only considering the type of their organization.

The group 1 is the commercial cluster which contains four stakeholders: Alliander, the grid company; Johan Cruijff ArenA; Spectral, the technology developer; and EnerTrans and Hedgehog. The commercial stakeholders refer to organizations that operated for the profit or benefit of its shareholders or other owners.

The group 2 is the governmental cluster which contains the two municipalities.

The group 3 is the academical cluster that consists of two universities and AMS institution.

Group 4 is the cluster of non-profit organizations contains the CoForce.

4.1.2 Connections between internal stakeholders

Internal stakeholders contain the PM team and five groups as described before, and each of them is working on one or more specific project results. According to the observation of project meetings, there are connections between different stakeholders as shown in figure 4.4. The PM team is responsible for facilitating teamwork and collaboration between partners. Project partners are working together for different project results. In addition, there are project meetings happen between all the stakeholders. therefore, they could communicate with each other even though they are not working on the same project result. (R 1=Result 1, R 7=Result 7)

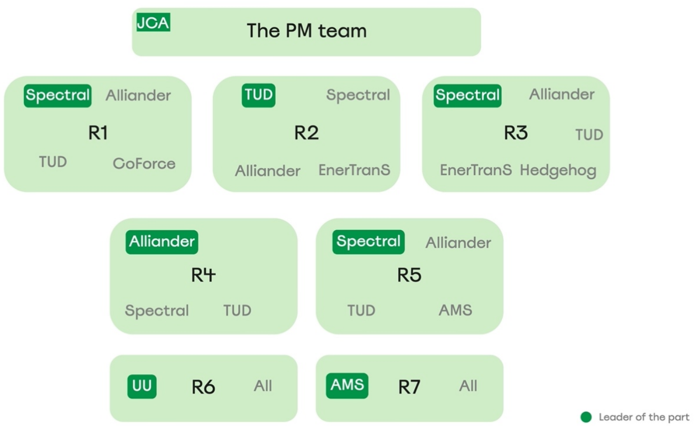


Figure 4.4: Connections between stakeholders

4.1.3 External Stakeholders: Potential end-users of the Platform

Group: External stakeholders who own flexible energy assets.

Role: flexibility and assets owners, end-users, big consumers

Stakeholders: ING Bank, Arena Energy House, Ziggo Dome, Connexxion/Flixbus (figure 4.5)

Figure 4.5: External stakeholders

External stakeholders contain consumers who have or do not have energy assets, but in this thesis, I mainly focus on those who have smart coordinated flexibility across varies electrical devices in their buildings in local regions, and they are also part of the end-users. The project team needs to use their assets and relevant data to connect their flexibilities to LIFE Platform. At the same time, external stakeholders can use this platform to realize their values. They knew the LIFE project at the project proposal phase, and they gave the project a letter of support. But it is essential to meet with them and know their needs and values for better collaboration.

What is the flexibility?

The flexibility of the energy system is the ability to adjust supply and demand to achieve that energy balance, a status that energy systems continuously match supply to demand. In the LIFE Project, smart coordinated flexibility across varies electrical devices in buildings are the main resource of flexibility in the system because buildings are the main users in the urban district. It includes heating, compressors, EV chargers and storage systems, etc.

The involvement of local businesses and asset owners in the ArenAPoort is an essential ingredient for the living lab experiments which will be conducted within the LIFE project. For real estate owners and other commercial businesses, the main interest in participating in the project is the opportunity to increase property value and reduce costs through smart energy interventions. The subset of participants who own relevant energy assets (e.g., JCA and Connexxion) are interested in understanding how their assets can be optimally managed to increase efficiency and generate additional revenue streams.

While the level of commitment to sustainability goals may vary between partners, based on the huge urgency to accelerate the energy transition, the theme which connects all LIFE partners is the common interest in making an impact and realizing the vision of our sustainable future. Partners who have more direct/tangible benefits have a greater incentive to participate in the co-creation of results. However, other linked parties (e.g., ING, Ziggo Dome) are willing to support, though perhaps more neutral with respect to their viewpoints about the planned development activities within the project.

As end-users and asset owners, this group of stakeholders has an important role to play, though they have a less degree of influence within the project when compared to, for example, the Distribution System Operator (DSO), Alliander.

4.1.4 Differences between internal and external stakeholders

As shown in Figure 4.6, there are differences between internal and external stakeholders in five aspects: Knowledge, Responsibilities, Knowing and Communicating, Roles, and Assets.

1. Knowledge: internal stakeholders know most of the information about the project, including roles, responsibilities, working process, etc. Some external stakeholders have been introduced to the project at the proposal stage, but they still know very little about LIFE.

2. Responsibilities: internal stakeholders are all playing different roles in the project team as project partners, contributing to different work packages, such as grid operators, technology developers, social developers, etc. But external stakeholders have not been involved in the team yet.

3. Knowing each other and communication: internal stakeholders have already been working together for a few months and are familiar with each other. However, there is a gap

between internals and externals, and between the external stakeholders. Internal stakeholders have already communicated with others during the project process, but they have not talked with external stakeholders yet. There is no conversation between external about LIFE either. Therefore, they may feel awkward when they need to have conversations together.

4. Roles: internal stakeholders play the role of project coordinators in LIFE, but some of them are also end-users of the LIFE Platform, while external stakeholders will just be customers and asset owners who can provide flexible energy assets.

5. Some internal stakeholders have flexible energy assets that can be applied to the local grid such as JCA and AEA, but others have no flexibilities. Big external stakeholders all own their energy assets in the local area which can be used in the LIFE platform and contribute to the local energy market.

	Internal	External
Knowing the LIFE	Yes	No
Taking responsibilities	Yes	No
Knowing others	Not sure	No
Communicating regularly	Yes	No
Roles	Diverse	Customers and assets owners
Own assets	Not sure	Yes

Figure 4.6: Differences between stakeholders

4.2 Strengths and weaknesses of used methods

There are two main series of activities conducted already in the past that are related to identifying stakeholders' desired values, and these two series of activities have used some different methods of usefulness in collecting desired values of internal stakeholders. In total, six main methods (Appendix 4) have been used, three of which are related to the process of identifying stakeholders' desired values. The strengths & weaknesses of these three methods were discussed in this section.

The first method is One-on-one Conversation used in the 1-on-1 interviews series of activities. The conductor GO did separate conversations with internal stakeholders who play the role of project partners. The aim of the conversation was to know the stakeholders' motivation, desired results, and worried risks. In my hypotheses, I listed three strengths and two weaknesses of it.

Strengths 1: It provides the opportunity to dig deeper into information from stakeholders. During the conversation, the interviewer could have the opportunity of proper guidance and further questioning. As shown in the answers collected by the conductor, stakeholders' answers are clear and concrete. In addition, during the conversation, the interviewer can observe the facial expressions, movements, and other physical behaviors of the stakeholders, to observe their mentality at that time.

Strengths 2: It could prevent stakeholders from skipping questions. During one-on-one conversations, interviewees could not skip questions easily in this face-to-face situation, compared to other methods such as surveys and questionnaires.

Strengths 3: It could prevent misunderstanding between the interviewer and stakeholders because the interviewer can explain the questions when stakeholders were confused, and the interviewer can ask questions when they are confused about stakeholders' answers.

Weakness 1: The 1-on-1 conversation takes a lot of time. There are more than ten stakeholders in total who need to be involved, and it takes lots of time to interview them one by one.

Weakness 2: The 1-on-1 conversation requires the conductor to speak the same language as the stakeholders. Some stakeholders don't speak Dutch, so it requires the conductor have good English spoken skills.

The second method is Written Feedback used in the 1-on-1 interviews series of activities with the same aim of one-on-one conversation. But some stakeholders had no time to join so they gave answers by writing it down in their available time. In my hypotheses, I listed one strength and two weaknesses of it.

Strength: The stakeholders have no time limitation in written feedback. Stakeholders received the question list and then had enough time to think of and write down their answers.

Weakness 1: The written feedback may cause misunderstanding. Stakeholders wrote down answers individually, so they may have some confusion on questions, and the researcher may be confused with stakeholders' answers.

Weakness 2: The answers collected by the written feedback are short and not elaborate. In the file *1-on-1 Interview Results*, some answers are short. For each question, there are only one or two sentences and just briefly answered the question. I assumed that these answers are obtained through written feedback.

The third method is Separate Creation used in the Use Cases series of activities. Project partners were asked to create user stories from their perspectives, which represent the goals and values that they want to achieve in the project. For collecting data, a simple sentence pattern and some examples were used to inspire stakeholders to start thinking. An example of a user story is: "As the City of Amsterdam, I would like to enhance innovation through the LIFE project."

I listed three strengths and three weaknesses of it.

Strength 1: No time limitation. Stakeholders have enough time to create user stories from their perspectives. For the separate creation stage, stakeholders had more than one week to create their own user stories.

Strength 2: Rich and diverse answers. Stakeholders can create rich and diverse user stories from their perspectives. As a part of the TU Delft team, I participated in this session and created 18 user stories with other team members in the way of brainstorming.

Strength 3: There was a good tool during this session: examples using the user story sentence template. Examples gave stakeholders a good start to thinking about their user stories. It is simple but useful for stakeholders to understand and use to formulate their own user stories.

Weakness 1: The template offers limited help. In the separate session, the sentence pattern was given as a template, but there were no guidelines or other support given.

Weakness 2: Chaotic outcomes. After gathering the collected user stories, I found those were created in the separate session were not well organized. They could have been grouped into different categories.

Weakness 3: Limited opportunities to refine their creation. Based on my participation and observation during this series, stakeholders have just one opportunity to create their user stories, there are no steps for them to iterate their outcomes

Some of these hypotheses disagreed and reflection was added by the conductor during interviews.

According to GO, 1-on-1 conversations took lots of time, but it's meaningful and necessary. It took him about two months to finish those interviews. But he thought integrating the large consortium in this complex project is a part of the project and it is necessary to finish this task because it is important to understand stakeholders' thoughts, desires, worries, etc.

"If I would look at the responsibility on stakeholder engagement and long-term impact, I think this is important to really understand the vision of one of the partners" – GO

I hypothesized that interviewees always get answers with deep and rich information. However, GO claimed that some stakeholders only gave short answers during one-on-one conversations. And this situation usually happened when the interviewee didn't have enough time to participate. But it does not mean that short answers are useless. Even though some answers are short and just brief, they still show information. "I would not use the lengths as a measure of the relevance or the importance of the answer. I think it's more important to look at what is being said." – GO

In addition, GO emphasized the strength that one-on-one conversation could make sure of independent answers. During 1-on-1 conversations, stakeholders had to think individually and were not influenced by other stakeholders so they could give their independent answers about their own thoughts and desires.

"They provide their feedback and what they think, which make sure that they are not influenced by others. There's no discussion. And this is actually one reason for me to choose 1-on-1 interviews" - GO

In addition, it could be found that all the three methods were used in a private context: one-on-one conversations only contains the interviewer and interviewee, written feedback that the interviewee finished along, and the separate session that happens in the stakeholders' internal context.

4.3 A task throughout the project

According to the Project management team, there are three-time points that managers need to identify stakeholders' value as shown in figure 4.7. In addition, I created the term **Stakeholder Value Identification (SVI)** to describe the process of identifying stakeholders' desired value, based on this finding and the assignment of designing for stakeholders' desired value identification.

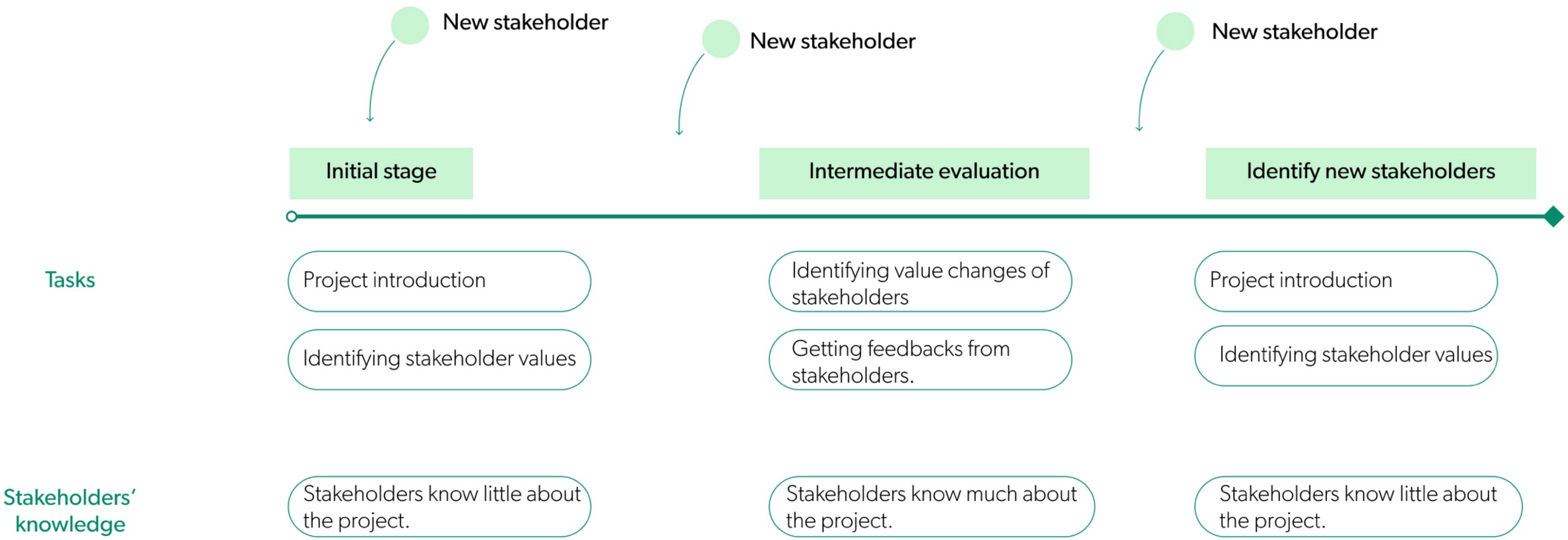


Figure 4.7: Three-time points the SVI is essential

The first time point is at the beginning of the project. At this stage, stakeholders are new to the project. The facilitator and the stakeholder need to know each other, which means the stakeholders need to get information about the project because they need to gain knowledge, and the facilitator needs to identify values that stakeholders want to get from the project. Therefore, the SVI process is essential in this stage.

"(When the project began,) the purpose of the interview was to know their(stakeholders) insights. it also into the stakes of every party." – DI, project manager

"I believe that if we want to make it more into an integrated design and engineering activity, we have to really come together and at least align on our common goal on our shared vision." – GO, the AMS Institute

"How to kind of organize the collaboration between these parties, knowing that there are different values at stake. that would be helpful for us to kind of get some tools." – DI project manager

According to the PM team, the second stage that the SVI process can play a role is the intermediate stage in which facilitators need to get updated feedback from stakeholders. At this time, the facilitator wants to know whether stakeholders are satisfied with the progress and whether there are any changes in their values.

"It's always good to re-evaluate, once in a while, if the stakes have changed, or thoughts have changed, or maybe they are unhappy, or they have suggestions to improve the process…I think it would definitely be valuable to do like a little midterm intervention or intention" – DI, project manager

Another time point is the time when new stakeholders are joining the team. This task in this part is the same as the first time point because new stakeholders have little knowledge as well.

"When you stakeholders come on board. Obviously, we need to get inside again and their values and thoughts." – DI, project manager

The facilitator

During the process of identifying stakeholders' values, there should be facilitators to schedule and conduct all the activities. It is also mentioned in the theoretical background that different leaderships are necessary to drive the difficult start-up process forward for the success of multi-stakeholder projects (Pattberg & Widerberg, 2016).

Two groups could play this role, the PM team, and the Stakeholder Engagement and Inclusion team in the LIFE project, shown in figure 4.8. Both the groups have played the role of the facilitator in previous activities. GO, who comes from the Stakeholder Engagement and Inclusion team conducted the interviews with stakeholders to know their motivation and desires; the PM team who conducted the series of Use Cases activities.

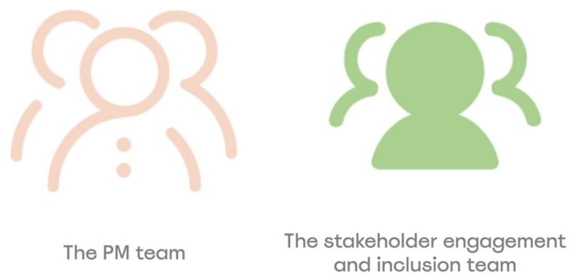


Figure 4.8: Facilitators in the LIFE project

A facilitator is a person or a team who controls relevant activities to achieve the goal of identifying stakeholders' desired values, including all preparing and executing activities, collecting data, etc. This graduation project will end with a design for helping the facilitator achieve the goal. After the discussion with the GO and the PM team, the facilitator can be introduced from different perspectives as follow:

WHO: The facilitator(s) will not necessarily be a fixed person or a fixed team. Because the entire LIFE project will last four to five years, there will be many staff changes during the period. According to the Project Management Team, there is no arrangement or planning as to who will be in charge of this series of activities in the Plan now. This leads to a requirement that the SVI process should be able to be used by the facilitator who is even new to the project.

WHAT: The facilitator(s) need to formulate or understand the purpose of controlling all the activities: identifying who are stakeholders, preparing and organizing activities to bring stakeholders' desired value out, and collecting and documenting data for later stages.

WHY: The facilitator(s) need to identify stakeholders because it is the first and most important step in engaging them to join and make contributions to the LIFE Project. The types of stakeholders are diverse, and the amount is large, so they need specific designs for specific stakeholders' desired value identification processes and tools.

WHEN: The facilitators will work on identifying stakeholders during the project duration irregularly, as new stakeholders may be needed to join in the process of building the LIFE platform. Therefore, the project team needs to understand these new possible stakeholders to prepare for engaging them to join in LIFE.

HOW: The facilitator(s) will achieve the purpose of identifying internal and external stakeholders' values through a series of activities and tools which will be developed in this thesis.

4.4 Influential factors during the SVI process

According to Barton (2015), participants' willingness and ability to talk about their ideas during formal interviews are influenced by a variety of factors. To better summarize and analyze the raw data from documents, observations, and interviews, I identified two groups of factors that may influence stakeholders of speaking out about values. The first group contains factors that could influence stakeholders' willingness to speak out their desired values to facilitators. The other group consists of factors that will influence stakeholders' ability to speak out their organizational desired values when facing the SVI process.

Part 1. Factors that influence stakeholders' willingness

1.1 The attribute of the organization will influence stakeholders' willingness to speak out desired values

The "Wants" of the stakeholder could not be fully disclosed because of their attribution. When stakeholders face the SVI process, some values they want to achieve in the project are hidden and bypassed. This is because of the organizational type and tasks they need to achieve which are sensitive for them and cannot be disclosed. This topic is seen as a sensitive part for them to be discussed and speak out about.

"They have their own organizational objectives they have to live for. So, they cannot disclose everything they want." – DI, project manager

But according to the project manager, these hidden values could become obvious to the facilitator of the SVI process if he/she knows the attribute of the organization.

"It's also obvious, in the sense that there is a commercial company, they have a very clear goal, which is to further the company's products...you don't need a whole survey to work that out. Just the fact that they're a commercial company gives that." – ZF, project manager

"I think for the most part, for most organizations is quite obvious. What their main motivation is, just by the fact of what type of organization they are, research, private, or public sector." – ZF, project manager

1.2 The responsibilities that stakeholders are aware of will influence their willingness of speaking out desired values.

The contact persons' willingness of expressing the desired values of their organizations during the SVI process would be affected by the responsibility they take as different roles. The awareness of the responsibility as a project partner in the LIFE project influences stakeholders' willingness of speaking out about their values. The contact person may be willing to talk with facilitators about their values when their awareness of being project partners is raised. Having the awareness that they are part of the team, they will feel that they have the responsibility to cooperate with facilitators' work.

In contrast, contact persons rank the priority of their responsibility as an employee of the organization higher, which may lead to a lower willingness of speaking out about the desired value of their organization in the LIFE project context.

1.3 The perceived level of importance of the SVI process.

During interviews with contact persons, all five interviewees expressed their interest in which part of the project the interview was part of, indicating that they have an idea to assess the importance of this activity. This led to the realization that it is critical to communicate the reason for and the significance of the SVI process to participants. When stakeholders place a high value on the SVI, they may be more motivated to communicate with the facilitator about their desired values.

"Yes, I know it (the stakeholder engagement and inclusion plan), is your project about this part?" – CF, TUD

"I was wondering the topic of your research, is identifying values a part of your research and the stakeholder engagement?" – CF, TUD

"I know that GO have done similar activities last year, is this a new session?" – DI, Gemeente

Stakeholders perceived level of importance of the SVI process could be influenced by two factors: stakeholders' need of defining things in advance to put forward the project process and the need to enhance collaboration.

1.3.1 The need of defining things in advance to move forward with the project progress would affect stakeholders' perceived level of importance.

GO, who conducted the activity of identifying stakeholders' willingness and desires at the start of the LIFE project, claimed that when they were told the necessity of defining desires in advance to form common goals, most stakeholders were willing to accept the invitation and have a conversation about their desires. This indicated that stakeholders' willingness of communicating desired values will be influenced by whether they see the SVI process as an important part of proceeding with the project. However, ZF, a LIFE project manager, stated that some stakeholders are always concerned about the project's progress and want to define things ahead of time, while others simply go with the project flow. It indicated that stakeholders who have higher wishes of defining things in advance to put forward the project will have a higher willingness to communicate about desired values with the facilitator. This resulted in an insight that enhancing stakeholders' needs of moving forward with the project may increase their willingness to express their desires to the facilitator.

"We have to really come together and at least align on our common goal on our shared vision ... I really asked specifically about the value proposition. The goal is actually to form a common goal of the project. Most of our stakeholders accepted my invitation, and we had deep conversations." – GO, AMS Institute

"Some people just want to go with the flow. And some people want to really define what to do." – ZF, project manager

1.3.2 The desire of enhancing collaboration would affect stakeholders' perceived level of importance of SVI process.

Stakeholders' desire of enhancing collaboration may influence their willingness of speaking out about their values in the SVI process. Because the SVI process is an important part of identifying and understanding stakeholders. And understanding each other is always good for collaboration. Furthermore, according to project managers, stakeholders have reported their need of enhancing collaboration in the project. Therefore, stakeholders who care about the collaboration may have a higher willingness to talk about their desired values if the design could indicate that the SVI process is good for enhancing collaboration.

"We heard more and more requests to plan in much more together time (to collaborate together)." – ZF, project manager

1.4 Facilitator's attribution will influence stakeholders' expression in SVI process.

Stakeholders' trust in the facilitator will influence their expression in the SVI process, and the trust will be influenced by stakeholders' attribution. As Mellinger (1956) proved when the communicator lacks the recipient's trust, the accuracy of information provided by the recipient suffers. And Wróbel et al. (2009) stated that trust in a facilitator is based on how team members perceive the facilitator, and the neutrality of the facilitator will affect their perception. The attribution of facilitators thus influences stakeholders' trust in facilitators and then influences their willingness to talk about desires.

1.5 Feelings during the process influence stakeholders' willingness of expressing desired values.

1.5.1 Positive feedback during the SVI process influence stakeholders' feelings.

Contact persons' willingness may be influenced by the feelings they experience during the SVI process, which is influenced by feedback from the facilitator. When the facilitator does not respond or express negative feelings, the contact person may be less motivated to continue communicating. As a result, if contact persons receive positive feedback and emotions during the SVI process, they may be more motivated to communicate with the facilitator.

I discovered that giving positive feedback is an important part of communication by observing the conversations between the project manager DI and contact persons, as well as the conversation between me and DI. Then I used this method in my interviews, and the interviewees tended to express more about the topic after receiving my positive response. For example, during my conversation with EV from Alliander, I expressed my interest when he mentioned aligning his personal values with the project. And he was eager to share more information with me. This could lead to the conclusion that giving positive responses to stakeholders during the SVI process can increase their willingness to communicate with the facilitator. Montgomery (1981) also believed that positive responses could bring high quality communication because it could show an endorsement or acceptance of the displayed qualities of the other.

1.5.2 Tiring experience leads to a low willingness to express in the SVI process.

If the SVI process is long and exhausting, they may lose the willingness to express themselves. Stakeholders became "oysters" in the late stages of the long meetings, as I observed in the Use Cases series of activities. This was shared by project manager ZF. People became tired and less talkative in the second half of the long meeting preceding the LIFE project.

"People just get way too tired If it's all remote on your screen, and teams or something…And they have to sit through a two-hour meeting. At least each week for the project or more… Later in the meeting, there were usually fewer people speaking, and I felt that many people are too tired to speak." – ZF, project manager

1.6 The desire of timesaving

Contact person's desire of timesaving will affect their willingness of expression during the SVI process.

All the contact persons are playing the role of project partners in the LIFE project and taking responsibility for other projects at their organizations at the same time. They are very busy with their tasks in their organization and the LIFE project. The busier the stakeholder is, the less time and energy they have to spend on the process. Therefore, the stakeholders will have a higher willingness if the SVI process is timesaving for them. During 1-on-1 interview activities, some stakeholders only have less than half an hour to communicate with GO, which led to short and brief answers. Although GO believes that the length of the answer has no bearing on its usefulness, it would be preferable if stakeholders could express themselves more explicitly.

"It has to be timesaving. just as you said, everyone's busy." – ZF, project manager

"Because people also have a normal job that they have to do. And on top of that, they have this project. That's usually the case. Fortunately, for me, I'm hired. So, this is my job for one day a week at least Yeah, it needs to be timesaving. So, it can't cost too much time or energy." – ZF, project manager

Part 2. Factors that influence stakeholders' ability during the SVI process

2.1 Existing communicating habits

The way of expression can influence the ability to speak out.

Some people gave short answers because they didn't want to express values, but some people were used to using short expressions. Different contact persons express their thoughts in different ways, which may influence their ability to express value in the SVI process. When I asked the same question, for example, some contact persons used to express their thoughts briefly, whereas others prefer to explain their thoughts as thoroughly as possible.

"If you ask a question, and somebody just gives you a very brief answer" – GO, AMS Institute

Long answer: "First of all, it's really nice for us to be involved with such a large consortium and also on a real-world project. With this project, we can see exactly how the research that we do on, for example, congestion, management, and different we have really *smart and intelligent solutions that we have published in the papers on problems such as these, but we don't have actually sort of study cases or areas where we can test. So for us, I think it really helps that this can be seen as a validation platform for our research. And it basically helps our research to gain more credibility." – CF, TUD*

Short answer: "That's our own objective to learn how we can prevent congestion. That's our objective." – EV, Alliander

2.2 Contact persons' personal knowledge

Effective value expression needs contact persons to understand both their organizations and the project very well. Because the definition of value here is the value that their companies want to get out of the project. In other words, the personal ability of the contact person to speak out about values will be influenced by their knowledge.

The contact personal knowledge in this context will be influenced by four factors: the position and role of the contact person, the changing staffs, the handover system in the project and organizations, and the stage of the project.

2.2.1 The position, time, and role of the contact person in their organization will influence the personal knowledge.

The contact person who plays a more important role, a longer time, and higher position in his/her organization could have more knowledge about their organizational values, which leads to a higher ability to speak out values.

"I'm working as the manager of strategy and innovation department from Alliander. So it's my job to know… I know pretty well, what we would like to learn and what the objectives are from me on the perspective." – EV, Alliander

2.2.2 The personal knowledge will be influenced when there are changing staffs.

According to the observation at the LIFE project, things keep changing in the project, and the changing staff is a big part of it. There is new staff joining the project and being the new contact person of their organization. In this situation, the knowledge of the contact person changed. If there are new contact persons from stakeholders, their knowledge about the project may be lower, which leads to a lower ability to speak out about values during the SVI process.

"One of my team members was involved with writing the proposal for the LIFE platform. Once the proposal was done, he actually didn't have much time…" – DI, Gemeente Amsterdam

"There was somebody else from Alliander, as a product manager. the product manager, he doesn't have a technical background, it was really complex for him to organize, and to understand what's going on in LIFE, they switched and asked me to become the project leader." – EV, Alliander

2.2.3 The handover system in the project and organizations will influence the knowledge of the contact person.

When there is new staff joining the project, the handover process and system will work to help increase their knowledge. However, there is no clear handover process in the project and some organizations. For example, EV, the contact person of Alliander, who joined the project in the second year, had no meetings with the previous contact person. But luckily, he had worked for two months with another colleague Anne. And he did some meetings with contact persons from other stakeholders to gain information about the project. Therefore, a clear and complete handover process is helpful for increasing or maintaining knowledge of contact persons.

"He already left the LIFE project away before, so I didn't have a chance to meet... And I've worked for two months with Anne (to know more about LIFE project), another colleague who works in LIFE. And from the projects. I talked to Spectral, TU Delft and Johan Cruijff Arena (to increase knowledge about LIFE project)." – EV, Alliander

2.2.4 Contact persons' knowledge will be influenced by the stage of the project.

Things in the LIFE project are constantly changing. As the project progresses, they may also generate new desires. The more stakeholders know about the project, the clearer they become about what value their organization wants from the project.

"Once the project started, then we see actually, it's missing lots of things, all the things that we've identified until now." – ZF, project manager

"Everything keeps on changing as well, because people, there will be new partners joining like Alliander who changes the game. There are different opinions coming at different times, some people change their minds. Sometimes they have a new staff member, so they can do more, sometimes they lose the staff members so they can do less, etc. It keeps on changing until the end until right at the end." – ZF, project manager

2.3 Experience in previous activities

Stakeholders' previous experience about expressing desired values will increase their ability to express desired values.

As the term "value" is an abstract word in the context, it requires explanation during the SVI process. Understanding the term is a prerequisite for ensuring that the entire SVI process is on the right track. Furthermore, it takes time and effort to consider and express value. If contact persons have prior experience thinking about and expressing values, they will be better able to demonstrate their desired values in the SVI process.

"The value of Delft? What is the value mean here?" – CF, TUD

"Umm, actually I don't know completely about this (desired value) part. What do you mean by value? Do you mean our contribution?" -- – DI, Gemeente Amsterdam

"Yes, we had an interview (about motivation and desired value) before, it was about the reason we chose to join the project… As I said before, the main reason we join this project is…" -- – EV, Alliander

2.4 The usability of the SVI process

The usability of the SVI process refers to the degree of easiness for stakeholders to participate in the process. The usability of the SVI process is affected by the following three factors.

2.4.1 A short-time process and low physical effort may lead to the high ability of stakeholders' Behavior of expression.

According to the interview with project managers, there were some situations in which stakeholders feel so tired because of the long duration and the higher physical effort. If stakeholders need to take a long time and higher physical effort during the SVI process, they may have a low ability because of fatigue.

"People just get way too tight… If it's all remote on your screen, and teams or something, and they have to sit through a two-hour meeting… it just wasn't productive." – ZF, project manager

2.4.2 An SVI process which can be aligned with stakeholders' daily routine, tasks and touchpoints may lead to a higher ability.

As mentioned in factors Part 1, stakeholders in the project are always busy with their project tasks, and they do not have enough time to work together offline, so they have the desire of timesaving in the SVI process. New things which come to the project will take their time to accept and understand. Considering that some stakeholders may not want to take much effort and energy into the SVI process, they may have a high ability if the process can be aligned with their daily routine, tasks, touchpoints, etc.

2.4.3 The usability of the SVI process will be influenced by the accessibility of the guidance during the SVI process.

In addition to the previous factors, the facilitator's guidance of the participant throughout the process also affects the participant's ability. As discussed in factor Part 1, facilitators' positive feedback could increase stakeholders' willingness. On the other aspect, facilitators' suitable guidance will increase stakeholders' ability to express values during the SVI process, such as the explanation of the tools, inspiration for stakeholders to think of answers, etc.

In conclusion, this section analyses the results of previous research. In conclusion, there are two groups of factors: factors that could influence stakeholders' willingness, and factors that could influence stakeholders' ability to express their desired values in the SVI process. To show an overview of all the factors during the value identification journey, a table (figure 4.9) of influential factors were illustrated below.

<table>
<tr><th colspan="6">Influential factors</th></tr>
<tr><td colspan="3">Part 1. Influencing willingness</td><td colspan="2">Part 2. Influencing ability</td><td></td></tr>
<tr><td></td><td>Factors</td><td>Sub-factors</td><td></td><td>Factors</td><td>Sub-factors</td></tr>
<tr><td>1.1</td><td colspan="2">The attribution of the organization</td><td>2.1</td><td colspan="2">Existing communicating habits</td></tr>
<tr><td>1.2</td><td colspan="2">The responsibilities that stakeholders are aware of</td><td rowspan="4">2.2</td><td rowspan="4">Contact persons' personal knowledge</td><td>The time, position, and role of the contact person in the organization</td></tr>
<tr><td rowspan="2">1.3</td><td rowspan="2">The perceived level of importance of the SVI process</td><td>The need of defining things in advance to move forward with the project progress</td><td>changing staffs</td></tr>
<tr><td>The desire of enhancing the collaboration</td><td>The handover system in the project and organizations</td></tr>
<tr><td>1.4</td><td colspan="2">Facilitator's attribution</td><td>The stage of the project</td></tr>
<tr><td rowspan="2">1.5</td><td rowspan="2">Feelings during the process</td><td>Positive/negative feedback</td><td>2.3</td><td colspan="2">Experience in previous SVI process</td></tr>
<tr><td>Tiring/ vibrant experience</td><td rowspan="3">2.4</td><td rowspan="3">The usability of the SVI process</td><td>A short-time process and low physical effort</td></tr>
<tr><td rowspan="2">1.6</td><td colspan="2" rowspan="2">The desire for timesaving</td><td>Alignment with daily routine</td></tr>
<tr><td>The accessibility of the guidance</td></tr>
</table>

Figure 4.9: The overview of influential factors

4.5 Contact persons’ different characteristics

Based on the interviews with contact persons and project managers, I created four labels to describe different characteristics of contact persons from different stakeholders, which helped me with directions that could be followed in the Develop phase.

The first label is **Straight talker**. 

The contact person who is a straight talker communicates with facilitators in a straight way. They express themselves directly when being asked about their willingness, reason, satisfaction, etc. Stakeholders with this label usually have high willingness to speak out about desired values of their organization with a facilitator. But whether they could express their desired values successfully is affected by their ability. The influential factors that may influence contact persons with this label are factors in influential factor part two. If the contact person with this label also had a strong ability to communicate desired values, it would be the easiest situation for facilitators to identify desired values of this stakeholder.

The second label is **Euphemistic talker**.

Contact persons who could be tagged with this label are more diplomatic. They talk about things in the project, for example, the project goals, and project needs, rather than values desired about their organization. They are always careful about what they are saying in the project. Euphemistic talkers have a low willingness to express their desired values with the facilitator, even though they may have the ability to express values. One opportunity for the intervention is to motivate Euphemistic talkers to Straight talkers.

“Some people are more diplomatic. So they will be careful about how they say things. Yeah. And some people are not. Some people don't care. So they would just say this is what I want. And I don't care about anything else.” – Z.F., project manager

The third label is **Pragmatist**.

A pragmatist is a contact person who deals with problems or situations by focusing on practical tasks. They care about the exact meaning of the SVI process. Regardless of their ability to express value, their willingness to speak out about desired values of their organization may be higher when they perceive the practical value of the process. For example, when they perceive that the SVI process can help them with a certain task in the LIFE project, they may be more willing to participate in the process and actively communicate with the facilitator. The influential factors that have the most possibilities to influence contact persons with this label are the perceived level of importance of the SVI process and the desire for timesaving.

"It's good that you know what you want. But it's also good for me to know what you want from me… When they say that they will use the digital twin to do this, it would be nice for me to know exactly what they would want to do." – CF, TUD

The last label is **Project freshman**.

Contact persons with this label mainly contain two groups: new stakeholders and the new contact person from existing partners. Project freshmen cannot offer enough information about organizational values because stakeholders in this group have less knowledge about the project than other stakeholders. In other words, contact persons with this label have a low ability to speak out about desired values that their organization desires in the multi-stakeholder project. But this does not mean that people with this label have a high willingness to express to the facilitator the value that the organization wants. It is possible that a contact person has both this label and the label " **Euphemistic talker**".

Overall, these four labels aim to describe different characteristics that contact persons might have, during the process of identifying desired values of their organizations in LIFE project. As shown in table 4. 10, a contact person us unlikely to be represented by a single label, but rather with multiple labels with different proportions, which can lead to their final behavior during the SVI process.

For instance, when a contact person has primarily the "Straight talker" label and with a bit "Project freshman" label, the willingness is high but the ability might be low, so an SVI process with interventions increasing their ability to express values might be appealing to this person.

	Straight talker	Euphemistic talker	Pragmatist	Project freshman
Straight talker	High williness		High williness	High williness Low ability
Euphemistic talker		Low williness	Low williness	Low ability
Pragmatist	High williness	Low williness		Low ability
Project freshman	Low ability	Low williness Low ability	Low ability	Low ability

Table 4. 10: Possible situation of contact person

5. Define

This chapter contains two sections: design opportunities synthesized from the previous research and the design statement.

5.1 Design opportunities

By synthesising the findings from document analysis, participation and observations, and interviews, I developed a summary of design opportunities based on the influential factors that I concluded before. The design opportunities were created to provide directions and inspiration for the design intervention in the Develop phase. In order to represent the consistent with previous findings and make the further design concept align with the findings, the influential factors, and design opportunities has been summarised together and an combined overview (figure 5.1) was present at last.

Opportunity 1: The design could show facilitators the type and attribution of the stakeholder.

This opportunity is based on factor 1.1: the attribute of the organization. As some stakeholders' organizational values have already been shown by their organizational type, information about types could be demonstrated to facilitators in the identification process. This opportunity is useful especially for Euphemistic talkers because they are careful of expression. So if their organizational attribution is clear, some information is obvious to facilitators. For example, if the attribution of an organization is a research institution, it's obvious that one of its values is getting and collecting research data as much as possible. If the attribution is a commercial company, there must be value in improving their products/services to achieve evolution.

Opportunity 2: The design could raise stakeholders' awareness of their role as project partners.

This opportunity is based on factor 1.2: *The responsibilities that stakeholders are aware of will influence their willingness of speaking out desired values.* The intervention could make them feel that they have the responsibility to express organizational values.

Opportunity 3: The design could bring stakeholders to the present stage of the project and point out the connection between SVI and project progress.

This opportunity is based on factor 1.3.1. If the SVI process does not clearly explain the benefits it could bring out, some stakeholders may still think it's not important to express real thoughts. Therefore, if the importance of the process could be clearly communicated, it can raise the stakeholders' awareness and motivate them to speak out sincerely. Some stakeholders care more about the visible progress of the project, therefore, connecting the SVI with moving forward the project progress could increase their willingness to speak out during the process.

Opportunity 4: The design could show the connection between SVI and internal collaboration with stakeholders.

This opportunity is based on factor 1.3.2: Stakeholders' desire of enhancing the collaboration would affect stakeholders' willingness. Some stakeholders care about the collaboration in the consortium, therefore, connecting the SVI with the internal collaboration may motivate them to speak with facilitators and express their real thoughts.

Opportunities 3 & 4 were created especially for Pragmatists because they care about the exact meaning of every task. Showing them the importance of the SVI process could lead to high willingness of them.

Opportunity 5: The design could indicate the neutral attribute of the facilitator. Based on factor 1.4: the attribution of the facilitator. Facilitators could show their neutral position in the project clearly. This may increase stakeholders' trust in the facilitator, thereby increasing the willingness of stakeholders to speak out their desired values.

Opportunity 6: The design could guide the facilitator to give positive feedback to stakeholders.

Based on factor 1.5: stakeholders' feelings during the SVI process. As stakeholders' feelings will be affected by facilitators' feedback during the SVI process, they may get negative feelings if there is no feedback or negative feedback. Giving stakeholders positive feedback during the SVI process may bring a positive feeling to stakeholders.

Opportunity7: The design could communicate the simplification of the SVI process and reduce stakeholders' from perceiving negative experiences. Based on factor 1.6: stakeholders' desire for timesaving.

As stakeholders maybe not familiar with the SVI process, they may perceive it as tiring based on their previous negative experiences. Therefore, the design could communicate the overview of the process to stakeholders clearly to show stakeholders a simple process. This opportunity was created especially for Pragmatists who care the timesaving in their work.

Opportunity 8: The design could provide interventions to help stakeholders speak more. Based on factor 2.1: stakeholders' communication habits.

As some stakeholders are used to give briefly answers, which might be not enough for the stakeholder to identify their desired values, the design could provide interventions to elicit stakeholders speak more.

Opportunity 9: The design should be possible to be used on contact persons who may play different positions in their *companies.* Based on factor 2.2.1: contact persons' time, role, and position in their organization.

Opportunity 10: The design could increase new staff's knowledge. Based on factor 2.2.2: Personal knowledge will be influenced when there are changing staff.

The contact person may be new to the project and does not know much about the situation. Therefore, facilitators could build a connection with the person and provide information, which may increase the ability of the contact person.

Opportunity 11: The design could provide a process/system for internals for handing over tasks. Based on factor 2.2.3: the handover system in the project and organizations will influence the knowledge of the contact person.

The design could provide stakeholders with a systematic process for them to hand over tasks. This may be good for increasing stakeholders' knowledge about the project, therefore, increasing their ability to express the values they want to get in the project.

Opportunity 12: It could be possible to use the design in each stage of the project. Based on factor 2.2.4: Contact persons' knowledge will be influenced by the stage of the project. The later the stage is, the more knowledge contact persons have.

Therefore, the design could provide the possibility to be used in not only one stage.

Opportunities 10, 11 and 12 are especially created for Project freshmen who may not have enough knowledge to express organizational values.

Opportunity 13: The design could provide various and flexible ways to facilitate expression. Based on factor 2.3: Stakeholders' experience in previous activities

If the stakeholder has experience in expressing values before, it could be easy for them to do it in the same way. But there are contact persons who have no experience in talking about values, it is still good to provide more options for stakeholders.

Opportunity 14: The design could provide a short time needed SVI process. Based on factor 2.4.1: the time spent on the process and physical effort that stakeholders need to take.

A long-time tiring process may cause low ability of stakeholders. Therefore, except for proving a short-time process, the design could contain interventions that make stakeholders ignore the time duration. For example, the design could divide the SVI process into several parts to reduce stakeholders' feeling of a possible long-duration process.

Opportunity 15: The design could provide interventions to lower the effort stakeholders need to take. Stakeholders' ability of values expression would be limited if they need much effort to formulate words and express them. Therefore, the design could provide tools to reduce the effort stakeholders need to take. Based on factor 2.4.1: the time duration of the process and physical effort that stakeholders need to take.

Opportunity 16: The design could be incorporated with stakeholders' general routines or touchpoints. Based on factor 2.4.2: the alignment between the identification process and stakeholders' daily routine, tasks, and touchpoints.

The SVI process could find a way to lower the effort of stakeholders by aligning the process with some routines or touchpoints in stakeholders' project day. This opportunity is especially for Pragmatists because the high alignment means the high practical value of the SVI process.

Opportunity directions

As the project was a process design, the opportunities are selected for the entire process but may not be completely elaborated into a detailed touchpoint design.

Through "Opportunity 1", it is possible to bring out some obvious stakeholders' desired values to the facilitator. "Opportunities 2 & 5" can motivate stakeholders by showing different indicates. "Opportunities 3, 4, 6, and 7" can motivate stakeholders by offering different values they need. "Opportunity 8 & 13" can bring out stakeholders desired values by offering elicitation interventions. "Opportunities 9, 14~16" can give stakeholders physical or mental support during the SVI process to increase their ability.

"Opportunity 11" is left out for the project scope. Opportunities 9 and 12 were then set as requirements rather than selected directions.

Factors	Sub-factors	Opportunities	
1.1	The attribute of the organization	1	The design could show facilitators the type and attribution of the stakeholder.
1.2	The responsibilities that stakeholders are aware of	2	The design could raise stakeholders' awareness of their role as project partners.

1.3	The perceived level of importance of the SVI process	1.3.1	The need of defining things in advance to move forward with the project progress	3	The design could bring stakeholders to the present stage of the project and point out the connection between SVI and project progress
		1.3.2	The desire of enhancing the collaboration	4	The design could show the connection between SVI and internal collaboration with stakeholders.
1.4	Facilitator's attribution			5	The design could indicate the neutral attribution of the facilitator.
1.5	Feeling during the process	1.5.1	Positive/negative feedback	6	The design could guide the facilitator to give positive feedback to stakeholders.
		1.5.2	Tiring/ vibrant experience		
1.6	The desire for timesaving			7	The design could communicate the simplification of the SVI process and reduce stakeholders' from perceiving negative experiences
2.1	Existing communicating habits			8	The design could provide interventions to help stakeholders speak more
2.2	Contact persons' personal knowledge	2.2.1	The position and role of the contact person	9	The design should be possible to be used on contact persons who may play different positions in their companies.
		2.2.2	changing staffs	10	The design could increase new staff's knowledge.
		2.2.3	The handover system in the project and organizations	11	The design could provide a process/system for internals for handing over tasks
		2.2.4	The stage of the project	12	The design should be possible to use the design in each stage of the project
2.3	Experience in previous SVI process			13	The design could provide various and flexible ways to elicit expression.
2.4	The usability of the SVI process	2.4.1	A short-time process and low physical effort	14	The design could provide a short time needed SVI process.
				15	The design could provide interventions to lower the effort stakeholders need to take.

		2.4.2	Alignment with daily routine	16	The design could be incorporated with stakeholders' general routines or touchpoints.
		2.4.3	The accessibility of the guidance		Same as the opportunity 8.

Figure 5.1: The overview of opportunities

5.2 Design statement

The purpose of the design goal is to have a clear starting point for the next Develop phase. As mentioned at the beginning of this thesis, the assignment is designing for the stakeholder value identification, guiding stakeholders of the LIFE project to express their values for contributing to the Stakeholder Engagement Plan."

Based on the findings of the research phase, the main problem is:

Stakeholders who participate in the multi-stakeholder project have their own desired values they want to achieve in the project but their desired values and reasons behind are not identified, because there is no specific process provided to identify stakeholders' desired values. But it is valuable to identify their desires as its important role in achieving a successful multi-stakeholder project.

This contains several sub-problems that have been discussed in the previous sections, such as stakeholders' low willingness of expressing their desires and no support for new stakeholders to express their desires. However, the stakeholders' value identification process is an important part of the Stakeholder Engagement and Inclusion Plan of the LIFE project. And giving other multi-stakeholder projects experience is a part of the project's expected long-term effects.

Therefore, a new design statement is formulated:

Developing an SVI process that can be used by facilitators in the multi-stakeholder project context to identify stakeholders' desired values and reasons behind them and offer facilitators effortless experience during the process by providing interventions that can elicit desired values of stakeholders from them.

It is worth to mention that this design is expected to not only be used in the LIFE project but also in other multi-stakeholder projects.

6. Develop

Followed by the design goal and design opportunities, this chapter is going to present the concept and development process from the draft concept to the final design.

6.1 Ideation

After the design challenges and opportunities are defined, it's time to have an open mind to generate ideas for the solutions. Therefore, ideation sessions are set as the first step of the design development.

Ideation sessions

The ideation consists of a co-creation session and several self-ideation sessions, which were implemented based on the same process. These brainstorming sessions aim to explore as many ideas as possible and focus on the quantity rather than quality.

List of "How to" questions

Before all the sessions start, a set of "How to" questions were developed as in the put material from influential factors and from the four tables of characteristics. By defining these questions, participants could have a clear direction to brainstorm on, and a problem can be explored in different angles.

How To clarify the attribute of the organization

How To increase willingness

- To raise stakeholders' awareness that they are playing the role of the project partner.
- To communicate to stakeholders the connection between the SVI process with the project development.
- To indicate the neutral position of the facilitator.
- To give stakeholders a positive feeling.

How To increase ability

- To increase stakeholders' knowledge.
- To reduce stakeholders' negative feelings about a possible long process.
- To clarify the current stage of the project to stakeholders.
- To align the SVI process with current routines, tasks, materials, etc.

Participants and ideation approach

The participants of the co-creation session were composed of 3 master design students from TU Delft and me as the facilitator. The brainstorming started with the introduction of project backgrounds, project design goal, influential factors, four characteristics labels, and the challenges ideate on (figure 6.2). Then participants were asked to work on each "How to" question for three minutes separately and write down their ideas on post-its and then briefly explain the ideas to other people. After the co-creation session, I conducted several self-ideation sessions in order to produce more ideas for the "How to" questions (figure 6.2). (See high-quality image in Appendix 15)

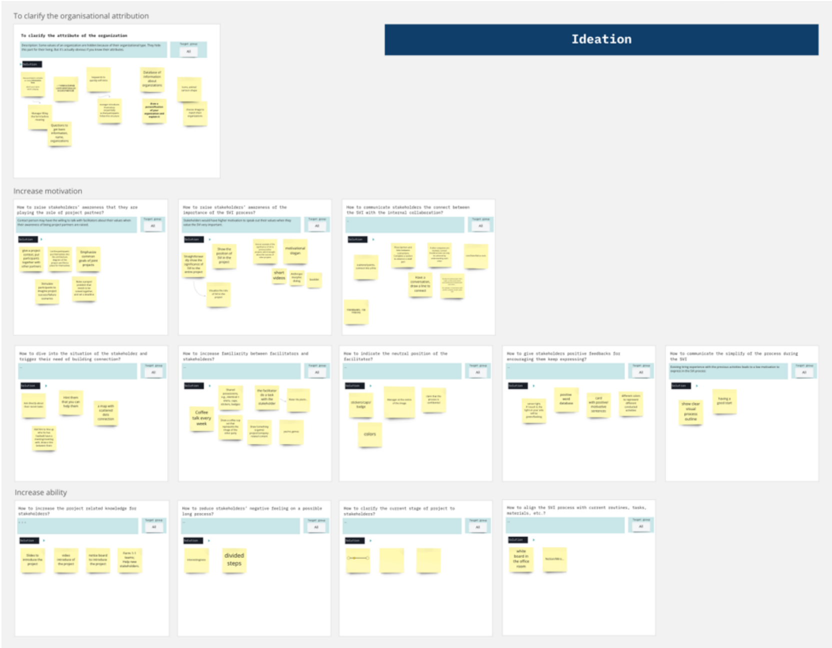


Figure 6.2: Ideation based on "How to" questions

The outcome of the group session are various ideas for each challenge which supported me to formulate the preliminary concept.

6.2 The first iteration

As a result of the ideation session, I conducted the first design iteration. This iteration aims to formulate a preliminary concept, which could be validated with the supervisory team and LIFE project managers to make sure the concept is on the right track and align with the research findings.

6.2.1 The preliminary concept

The concept consists of four stages:

- Stage 1: Indicate and introduce

  Trigger a dialogue to indicate attribution of the facilitator and introduce the SVI process approach.

- Stage 2: Dive into the LIFE project

  Introducing key information of the LIFE project to the stakeholder

- Stage 3: Create and Demonstrate

  Asking stakeholders to choose their desired values from template and demonstrate those values on the table.

- Stage 4: Wrap up.

The goal of this concept is to help facilitators identify stakeholders' desired values. The core idea of this concept is to represent stakeholders' organizational desired values in a casual way and visualize their desired values on paper. The stakeholder who participates in the SVI process will be asked to create an organizational personification image with offered materials. The materials they could use are various colors of paints and stickers. The stakeholder could express the value they want and choose a color to represent the value. In the end, the special organizational image would demonstrate the values this stakeholder wants to get in the project. The whole process will be conducted between one facilitator and one stakeholder considering that the sensitivity of the topic will decrease stakeholders' willingness of expressing desired values (influential factor 1.1).

Stage 1. Introduce and indicate

The first stage aims to give stakeholders basic information about the process, and increase stakeholders' willingness of expressing desired values by increasing stakeholders' trust on the facilitator. There are two steps in this stage:

Step 1: Use the facilitator's badge to trigger a dialogue

In this step, the facilitator will wear the facilitator's badge to meet the stakeholder. The badge (figure 6.3) has a pattern which means the facilitator is a hub in the project connected to all the stakeholders. It is developed from ideas in chapter 6.1. The aim of this step is to indicate to the stakeholder that the facilitator is in a neutral position in the project to increase stakeholders' trust on the facilitator and then increasing their expressing willingness.

The badge is used to spark stakeholder's curiosity and facilitate a dialogue between the facilitator and stakeholders on it. In this way, the facilitator could show the badge to stakeholders and introduce its meaning, in order to give an impression of a neutral position to stakeholders.

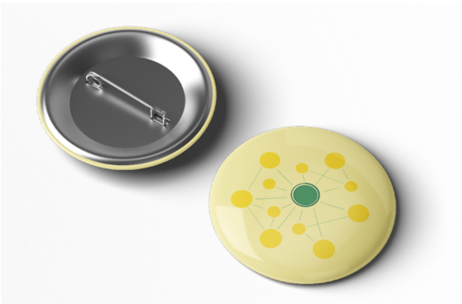


Figure 6.3: The badge for facilitators

Step 2. Introduce the SVI process

In this step, the facilitator will introduce the poster to the stakeholder to give the stakeholder an overview of the whole SVI process and reduce their uncertainty of a possible long and tiring process by using the poster of SVI. The poster (figure 6.4) was designed to (1) give stakeholders an overview of the whole SVI process, by making the process looks simple, and (2) introduce the function and its connection with the project progress, showing stakeholders that this SVI process is meaningful to the project. It targets stakeholders with the "Pragmatist" label who care about the practical value of activities in the project to reduce their feeling that doing the SVI process is wasting their time.

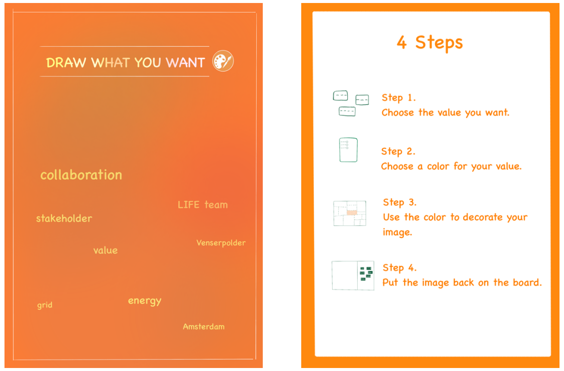


Figure 6.4: The poster of the SVI process

Stage 2 Dive into the LIFE project

Stage 2 aims to increase stakeholders' knowledge about the LIFE project to increase their ability to communicate desired values and raise stakeholders' awareness of being a partner in the project to increase their willingness of expressing desired values.

Step 3: Going through basic information of the LIFE project with the stakeholder

In this step, the touch point is the "LIFE" Project Board (figure 6.5) that can be placed in the project office room. In order to increase the knowledge of stakeholders, the idea is to decorate a project board in the LIFE project office at Entry 300. The preliminary design of the board focuses on five sections of LIFE project. Each section is explained below.

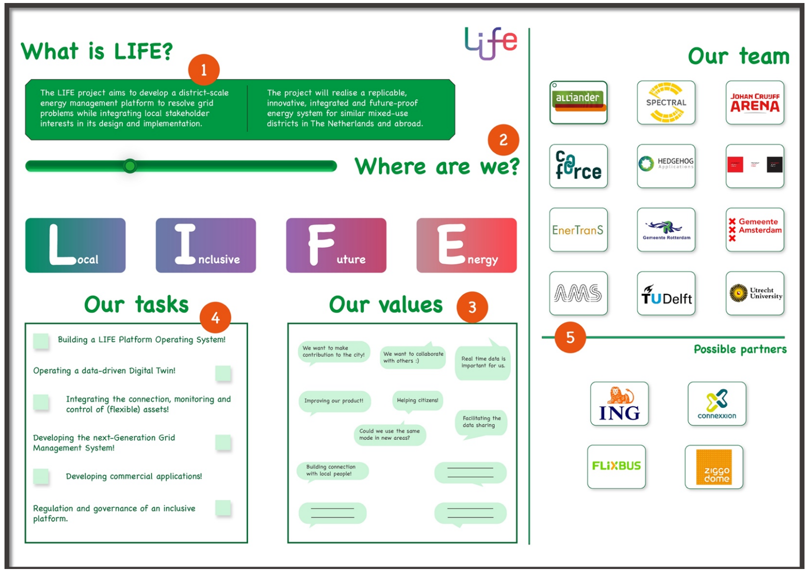


Figure 6.5: The project board and stakeholder team board

Section 1. Looking back at the project overview

This section is designed to bring the stakeholder from their daily focusing tasks to a project level to have an overview of the project, preparing for entry into the SVI process. This section would briefly introduce what is the project and the main goal of this project.

Section 2. Showing the current project stage

After stakeholders have an overview of the project, this section could give the facilitator a chance to talk about the current stage of the project, facilitate the stakeholder to think about their feelings and give their feedback to the facilitator. This section is mainly designed for the SVI process which happens at the midterm of the project. At that time, the facilitator wants to know the feedback and possible changes to their organizational value.

Section 3. Making stakeholders aware of the project-related values

In order to help "project freshmen" gain more information about the project and inspire them to think of values that their organization wants to get, a series of keywords that represent project-related values are shown in this section. When conducting the SVI at the beginning of the project, facilitators can make some examples as inspiration for stakeholders to facilitate stakeholders' thinking of the values they want.

When conducting the SVI in the intermediate stage, the values could be the values facilitators identified at the beginning stage or stakeholders' wants they created themselves, to know the changes of stakeholders and get their feedback on their level of satisfaction. The touchpoint that stakeholders could use to express their level of satisfaction will be introduced at the stage 3.

Section 4. Showing project tasks which contain the SVI process.

This section briefly shows the expected results and main tasks that will be done in the project. The SVI should be placed in to show the importance and necessity of conducting it. This section is designed to work in combination with the SVI poster.

Section 5. A team board - Displaying the project team in a tangible way

A map (figure 6.5) of all the stakeholders is shown in this section. This aims to give the stakeholder an overview of the current existing stakeholders and expected stakeholders who may join in the future, putting them in the atmosphere that other stakeholders will also do the SVI process. The stakeholder will be asked to find the card of their organization and pick the card off, which aims to indicate that they are a part of the team and to raise their awareness of playing the role of a partner.

Step 4: Raising awareness of stakeholders

To raise stakeholders' awareness of playing the role of project partners in the project, stakeholders will be asked by the facilitator to find their organizational card with their logos and take it off the board. Through this step, stakeholders' perception of their identity as a partner will be strengthened.

Stage 3 Create and demonstrate

After stakeholders are brought into the context of the SVI process, the facilitator should post the task to the stakeholder and introduce available materials and provide stakeholders with guidance to start creating their organizational images.

There will be three steps in this stage: stakeholders will be asked to create an image of their organization with their own understanding. When they are choosing values and materials for drawing, the facilitator could ask the stakeholder to know what value he/she chooses, and what is the meaning behind it. The materials they can use are the previous project-related values, multicolor pigments and brush, blank color index cards, and the organization cards they pick off from the project team board. There are three steps in this stage:

Step 5: The facilitator introduces the rule and materials that will be used in this stage. The material contains two parts: a blank color index card and drawing tools, and a blank organizational personification image card.

Step 6: The participants write down their desired values on lines on color index card, then choose colors to represent these values, and filling the boxes on color index.

Step 7: The participants use the colors to fill in the blank areas of organizational card.

Touch point: Blank color index card and drawing tools

To increase the knowledge of project freshmen, some project-related values were presented on the project board (figure 6.6). This card consists of five sections:

1. Some value examples.
2. Blank color boxes for filling chosen colors.
3. Value-related stickers which stakeholders could use to decorate their own organizational image
4. Expressions that stakeholders can use for giving feedback.
5. There are also blank areas in which stakeholders could add more value by themselves.

The color index is designed to be filled by the stakeholder. They could choose a value they want and then use the pigments with a chosen color themselves to fill the circle. The color index will be used as a reference to read the organizational image stakeholders create.

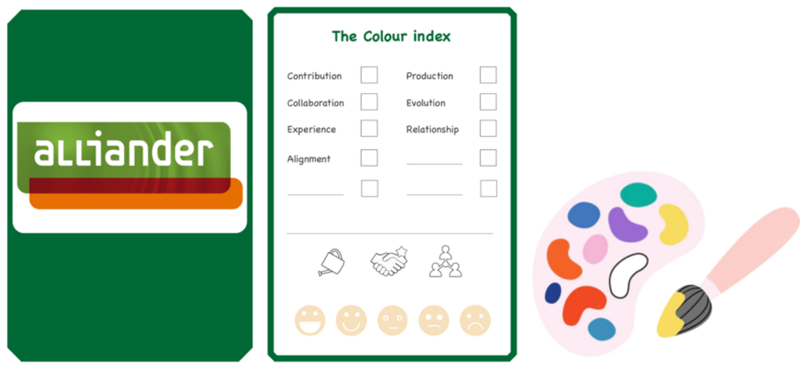


Figure 6.6: The color index card and drawing tools

Touch point: Blank organizational image card

This card figure (6.7) uses several blank shapes which stakeholders could fill with their values. Considering that there may be many kinds of values that stakeholders want, I divided these shapes with dotted lines to avoid making participants spend too much effort when decorating the image. The stakeholder can choose colors to represent their different desired values, and then fill blank areas with chosen colors. The front of the card is the logo of this organization and the back is the image to be done.

Figure 6.7: The organizational image card

Stage 4 Wrap up

The goal of this stage is collecting the outcomes of participants: organizational personification image card created by stakeholders themselves, and color index as a reference. After the stakeholder finished the painting, the stakeholder will be asked to put the decorated organizational personification image card back to the stakeholders' team board on the "LIFE" Project Board. And the facilitator keeps the color indexes. These color indexes could be used to read the organizational personification image card to know stakeholders' values.

6.2.2 Evaluation of the preliminary concept

After transforming the individual ideas into an integrated preliminary concept, several evaluation sessions were conducted to assess whether the concept directions were logical and whether it aligned with the design goal.

Approach

The participants are composed of the supervisory team and two LIFE project managers. During the evaluation sessions, I presented the process flow and all the design touch point, after discussing each element of the concept, some key takeaways are summarized below.

Key takeaways from evaluation sessions

1. The concept needs to consider the situation that the stakeholder may not ask about the facilitator's badge.

If the facilitator just wears the badge and go to the meeting, the stakeholder may not be aware of it. So it would be better to change the way of mentioning the badge.

(Feedback from LIFE project manager)

2. The time of introducing the poster needs to change.

The poster introduces steps that the stakeholder needs to do to create their organizational images. So it is better to introduce it later.

(Feedback from LIFE project manager)

3. The project board section 4 needs to show the importance of the task SVI.

In the section 4 of the LIFE project board, the SVI was not shown as an important part but just like other tasks. The SVI process is not attracting attention.

(Feedback from LIFE project manager)

4. The color index needs an explanation.

It is not clear what values are those keywords about values and stickers mean in the color index. Stakeholders may feel confused and need more explanation otherwise they cannot make their choices.

(Feedback from LIFE project manager)

5. The concept needs elicitation for stakeholders to speak out.

The stage of asking stakeholders about their desired values lacks guidance for stakeholders. There is only one task assigned to stakeholders. It is not sure whether the stakeholder could speak out about their desired values even if they chose colors. The concept cannot make sure that the stakeholder will communicate with the facilitator when he/she is drawing the organizational image.

(Feedback from the LIFE project manager and supervisor team)

6. The concept needs guidance for the facilitator.

There are steps to tell the stakeholder what to do in stage 1 and stage 2, but the actions that stakeholders should do were not clear for stage three. There are detailed introductions and explanations needed to help the facilitator understand the whole SVI process and know what they need to do.

(Feedback from LIFE project manager and the supervisor team)

Conclusion

The preliminary concept can play a role in increasing stakeholders' knowledge about the LIFE project to increase their ability to speak out desired values. But the design is not of enough usefulness when facing stakeholders with the label "Euphemistic talker" because there is no guidance offered in the concept. In addition, the design elements targeted on "Pragmatist" are not obvious enough to be recognized by stakeholders, therefore, resulting in a poor effect.

The first design iteration leads to directions for improvements in the next iteration. Overall, the second iteration would focus on the improvement of four aspects.

- Improve the way of trigger dialogue of stage 1.
- Refine the section 4 of LIFE project board of stage 2.
- Redesign the way of eliciting stakeholders' values of stage 3.

- Elaborate the guidance for the facilitator at a more detailed level of stage 3.

The most important direction for improvement will be to focus on stage 3 because it is the actual stage of identifying stakeholders' desired values, while the other two stages are seen as sensitizing stages. Further, what is worth mentioning is, project managers who might play the role of the facilitator, made their request for a low-effort SVI process due to their tight time planning in the LIFE project and a large number of stakeholders.

6.3 The second iteration

Following the directions for improvement, I conducted the second iteration. The purpose of this iteration is to improve the preliminary concept to cover stakeholders with different characteristics labels. It starts with a further exploration session on the elicitation techniques. Afterward, an individual ideation session was conducted to create ideas to elicit the stakeholders with the label "Euphemistic talker" because it is found in the evaluation session that stakeholders with this label are not in touch with yet. Afterward, the touchpoints in stages 1 & 2 are refined. Finally, an intermediary concept is developed and evaluated by a role-play session, and improvement directions are formulated for developing the final design.

6.3.1 Further exploration

To gain more knowledge on ways of eliciting stakeholders' desired values from contact persons, a further exploration session has been conducted by reviewing the literature. These literatures were chosen because their topics are all related to elicit answers/thoughts/desires from interviewees, users, or other target groups.

According to the previous discussions about factors that influence stakeholders'' willingness, stakeholders may become euphemistic and evasive because this topic is sensitive for them to talk about. In research in the field of sociology, researchers often ask about topics that are difficult to discuss in formal interviews such as controversial political topics, democracy, human rights, ideas that may be largely tacit, etc. As Keith (2015) stated, "asking straightforward questions about these subjects can be frustrating because many participants either cannot talk about them easily or prefer not to." Elicitation techniques (Johnson & Weller, 2002) were found useful to facilitate such conversations to get people to talk about ideas they don't usually talk about by displacing the focus of interviews onto external stimuli and or changing the power balance between researchers and participants. In summarize, there are some insights from literatures:

Insight 1. It is efficient to answer broad, abstract, open-ended questions, such as "What is your philosophy of management?" (Tobin et al.,2009)

Insight 2. As Barton (2015) concluded, using concrete tasks is helpful to explore abstract concepts. Special assignments could be used to bring stakeholders' ideas to the surface even they may know a great deal about a topic and have a great deal to say. Elicitation tasks examples: putting items in an order, commenting on photographs, or sketching a diagram.

Insight 3: Materials such as photographs can function as a third party so that researchers could work together with the informant to explore and understand the content, to become close to the informant (Collier, 1984). This could make participants more comfortable during the process. As Schwartz (1989) observed, participants even become less self-conscious about the notetaking or recording equipment because questions focus on materials rather than the respondent.

Insight 4. Purely verbal questions lead to an uncomfortable and unproductive experience, especially when researchers and participants come from different backgrounds. Collier and Collier (1986) suggested that "verbal questioning can create a distance between interviewer and informants."

Insight 5. In a conversation, closed-ended questions are efficient in getting responses.

As researched and proved by Stone (1993), Asking closed-ended questions guarantees the number of answers and avoids ambiguity, increases the response rate, and especially gets rid of irrelevant answers. As Aberbach & Rockman (2002) stated, are more likely to respond to closed-ended questions due to the worry of being time-consuming. Closed-ended questions with options were also effective in increasing the participation of informants, as it made them feel more at ease with less effort required to think. Some interviewees may not fully understand the question but when they look at the available options of answers, they gain a better understanding of what is being asked. In addition, closed-ended questions are easy to replicate and modify as per the requirement (Dawer, 2019). "They can be customized on the basis of the type of survey, type of organization, type of products and services it provides, and response required, etc."

Insight 6. The design could use construction tasks especially drawings to identify stakeholders' thoughts. As proved by Hunter and Farthing (2008), drawings can stimulate deeper and more elaborate verbal responses because people make "symbolic" choices whenever they create art, and interviewers can ask them to reflect on the meaning of those choices.

Therapists have some skills to guide client conversations in psychotherapy consultations, such as expressing empathy and building trust. In this field, eight factors (Anderson et al., 2020) are commonly used to test a therapist's facilitative interpersonal skills to respond to difficult psychotherapy moments: 1) verbal fluency to show the ability of verbally comfortable and at east in communicating; 2) hope and Positive Expectations to rates expressions of hope, optimism and positive expectations for change; 3) Persuasiveness to rate the therapist's capacity to induce the other to accept a different view; 4) emotional expression to rate the extent to which the participant's response is delivered with effective expressions of emotion; 5) Warmth, Acceptance, and Understanding to show the ability of the therapist to care for and accept the other; 6) Empathy to show the therapist's capacity to respond with an expressed understanding of the subjective experience of the client; 7) Alliance Bond Capacity to show the therapist's capacity to provide a collaborative environment, one in which there is recognition of the need to work with the client jointly on problems; 8) Alliance Rupture-Repair Responsiveness to rate the extent to which the therapist appears responsive to the interpersonal issue.

This leads to the insight 7 that the design could help the facilitator of the SVI process to show these eight abilities to get through the bottleneck moments of conversation with stakeholders.

The attention of psychiatrists to the facilitative role of nonverbal behavior in conversation has led to insight 8: this design can influence the conversation by assisting the facilitator and stakeholder in establishing rapport between them (Foley & Gentile, 2010). Here are the ways of enhancing rapport: show interest by paying full attention to the conversation at hand and encourage further communication with nonverbal signals like eye contact and nodding; show the enjoyment of the conversation by using nonverbal gestures such as smiling, laughing, and leaning forward in a chair; and establish similarities on nonverbal behavior, such as making and changing same postures with him/her.

In addition to the methods mentioned above, salespeople also have ways to identify desires. The SPIN model (Rackham,1995) is a very well-known one of the most widely used sales methods developed in the past 20 years. It understands the customer's situation by asking situation questions and then asking problem questions to discover the hidden needs of customers in the problem. This leads to the insight 9 that: the design could not directly ask for stakeholders desired values but approaching to answers by diving into the situation of stakeholders and then identifying their desires that implied in their possible current problems

6.3.2 Self-ideation

Inspired by gathered insights described above, a self-ideation session has been conducted to create ideas on the question: “How to elicit stakeholders’ desired values from euphemistic talkers?”

As shown in the figure 6.8, several ideas were created. Then they were clustered to four groups.

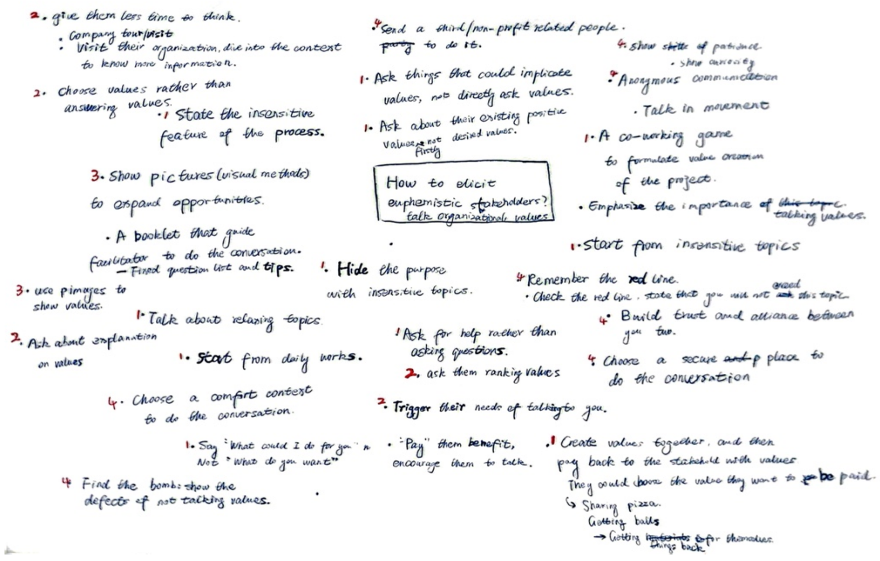


Figure 6.8: Ideas from self-ideation session

Group 1: Insensitive topics

This group consists of ideas about approaching slowly into the target topic, starting from insensitive topics rather than directly asking about values. For example, starting from tasks that you could work on together in the LIFE project.

Group 2: Avoid evasion

This group of ideas focused on ways of avoiding stakeholders' evasion of questions. For example, asking stakeholders to choose values from given options.

Group 3: Divert attention

This group consists of ideas about diverting stakeholders' attention to other materials rather than making them focus on the question that the facilitator asked, thus decreasing their sense of the sensibility of the conversation.

Group 4: Build a comfortable environment

This group of ideas concentrates on building a comfortable environment for stakeholders to make them feel relaxed and supported during the conversation.

6.3.3 Draft concepts

The four groups of ideas were then combined and developed into two draft concept directions.

The first direction is an "information mining" (figure 6.9) structure, aiming to collect stakeholders' desired values by identifying their current problems or difficulties. Because problems and difficulties stimulate new demands and needs of stakeholders, and then stakeholders have the desire for new values. Problems and difficulties are the origins of desired values. To identify current problems or difficulties, the facilitator starts the SVI process by asking questions to collecting facts, information, and background data of the stakeholder, which are insensitive topics.

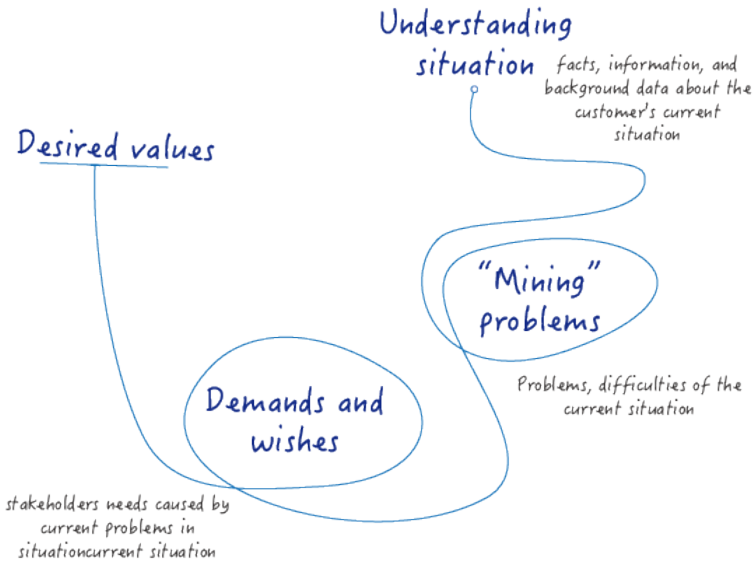


Figure 6.9: An "information mining" structure

The second concept direction is a close-ended type of task (figure 6.10) to give stakeholders multiple choices of different values rather than asking them open-ended questions for their desired values to avoid them from evading questions.

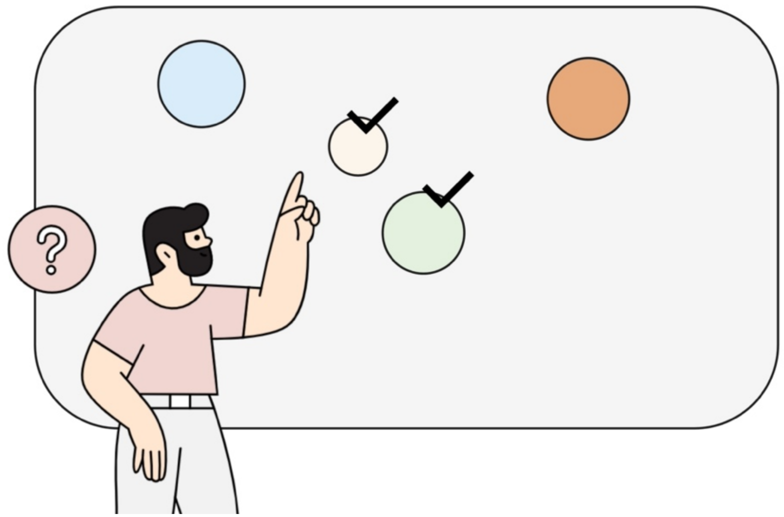


Figure 6.10: A close-ended task

Choosing direction

After comparing these two concept directions and considering previous design opportunities, feedback from stakeholders, and new insights from literatures, the second concept direction was chosen because of the following reasons:

1. For the "Information mining" structure, there is much preparation needed from the facilitator because stakeholders' situations are distinct from each other. If the facilitator wanted to dive into the situation of the stakeholder and mine their organizational problems or difficulties, it would require a basic understanding of the organization. Otherwise, it would be impossible to understand the stakeholders' situation sufficiently,

thus leading to a high requirement for the facilitator's preparation before the SVI process.

2. The "information mining" structure is based the most on the questioning skills of the facilitator. Because each organization is unique, the difficulties and problems they face are as well, and the facilitator cannot predict what difficulties the stakeholder may face at the beginning of the process without research. As a result, the solution is heavily reliant on the facilitator's ability to ask questions.

3. In the "information mining structure", the facilitator needs to identify problems and difficulties the stakeholder is facing and then find the implicit needs behind the problem. However, the problems and difficulties of organizations may be sensitive to be discussed as well as their desired values.

4. For the first concept, the topic of the opening stage was only narrowed to explore the situation faced by stakeholder organizations, which is still a very broad scope. However, the specific situation aspect is uncertain because the concrete circumstances that may generate stakeholders' desires are different for each stakeholder, making it difficult for the facilitator to start the conversation.

5. Compared to the first concept, the "close-ended task" directly narrowed down the topic of the conversation on values and can avoid stakeholders from evading open-ended questions.

Developing the "closed-ended task"

The core idea of draft concept 2 is giving stakeholders close-ended tasks rather than asking them open-ended questions such as "what are the desired values of your organization in the LIFE project?" to avoid the stakeholder evading the question and make sure the facilitator can get answers during the SVI process. This idea was developed into four steps by making the idea more concrete:

Step 1: Learning value categories

At this step, the facilitator introduces seven different value categories to the stakeholder. This step aims to directly give the stakeholder options for the next step in which the facilitator will ask them to choose desired categories. As shown below (figure 6.11), these seven value categories contain seven different levels of needs of an organization, ranging from basic survival needs to social contribution. These seven categories were created by Barrett as discussed in chapter 2.3, identified the seven most important areas of an organization, and provides a proven map for the evolution of organizational needed value.

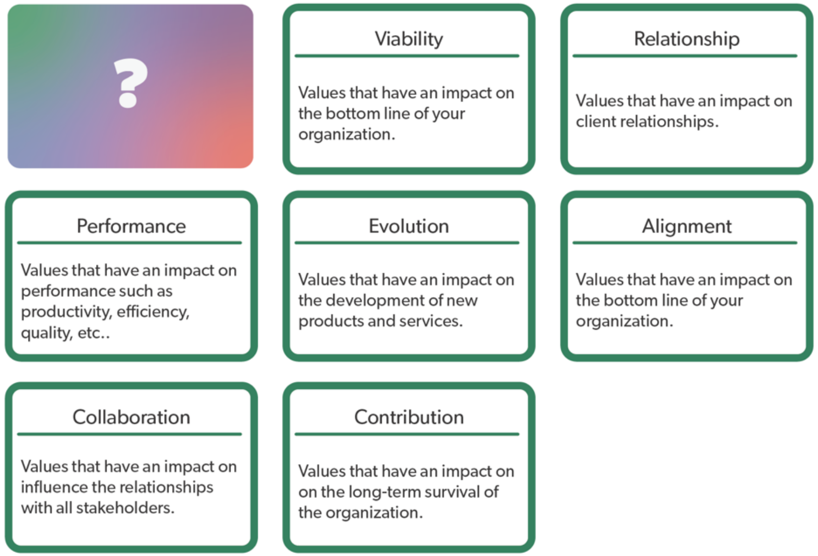


Figure 6.11: Seven value categories (adapted from Barrett, 2006)

Step 2: Choosing desired value categories.

After the stakeholder learns and understands all these seven categories, the facilitator asks the facilitator to choose categories that their organization wants to get in the project by raising the close-ended question “Which value categories does your organization want to make improvements or get new values from the LIFE project?” The closed-ended question with given choices can “force” the stakeholder to give answers. And it could reduce interviewees evading from questions.

Step 3: Choose desired values from chosen categories.

After the stakeholder chooses their desired categories, specific values (figure 6.12) in these categories will be shown by the facilitator. For example, in the category “viability”, there are five different values provided as choice options for the stakeholder. At this step, the stakeholder will be asked to choose their desired values from these options or write down their own thoughts on blank cards.

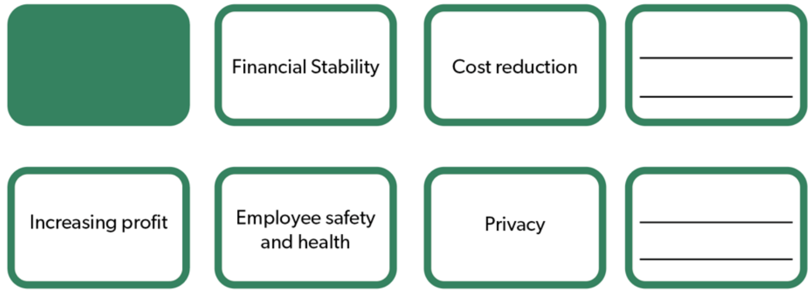


Figure 6.12: Values from the category “viability”

Step 4: Dive into the story behind the chosen value.

Step 4 is aiming to get more explanation about the chosen value from the stakeholder. Instead of asking “why do you choose this one?”, this step provides a card to help facilitators eliciting reasons and stories behind. As Rackham (1995) stated, needs and desires for the future come from current problems/difficulties/dissatisfaction and previous experiences. The card was created based on that as shown in figure 6.13

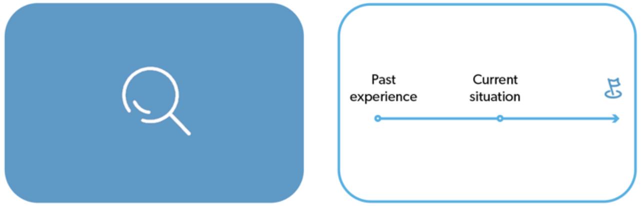


Figure 6.13: Story types behind desired values

After knowing the story behind one chosen value, it is time to move to the next one. After the chosen values of a category have been discussed, the facilitator starts to discuss the next selected category with the stakeholder. The overview of this "closed-ended task" are shown below (figure 6.14).

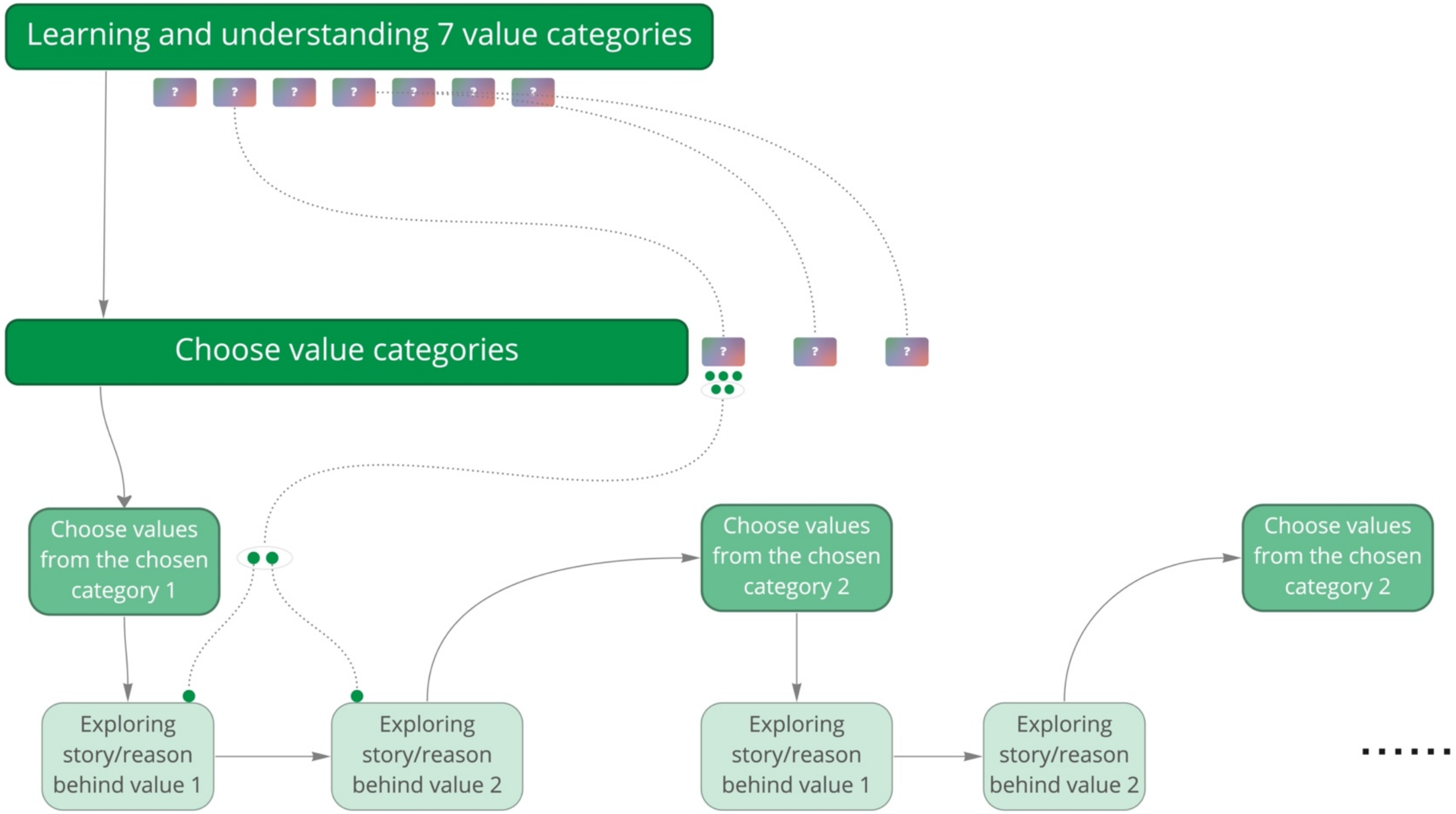


Figure 6.14: Overview of the "Closed-ended task

6.3.4 The intermediate concept

Compared to the preliminary concept, the intermediary concept has mainly refined the following aspects based on the four stages of preliminary design:

For stage 1: Indicate and introduce

- Refined the step of talking about the facilitator's badge of in order to make sure the dialogue happen.

For stage 2: Dive into the LIFE project

- Refined the SVI poster to match the changes and target stakeholders with the "Pragmatist" label.
- Sections on the LIFE project board have been improved.

For stage 3: Create and Demonstrate

- To elicit desired values from stakeholders with the "euphemistic talker" label, a new stage was created and added to the concept.
- The process for stage 3 (create and demonstrate) has been adjusted to match the storyline of the whole SVI process.

Stage4: Wrap up

To describe how different elements were improved in a systematic view, the intermediary concept is presented in a journey map (figure 6.15). The four stages of the preliminary design have been slightly adjusted and a new stage was added. The intermediate concept finally consists of four stages:

Stage1: Sensitizing:

This stage consists of the stage 1 (Indicate and introduce) and stage 2 (Dive into the LIFE project) of the preliminary concept.

Stage 2: Eliciting values

The closed-ended task.

Stage 3: Demonstrating values

Bring the desired values on the table

Stage 4: Wrap up.

As many elements in the preliminary concept are explained in 6.2.1 and the "Closed-ended task" added was introduced in 6.3.3, this section would mainly focus on the description of the new adding stages and refinements.

Description of the refinements

The way of indicating attribution

The way of indicating the facilitator's attribution has been changed in the intermediate concept. In the preliminary concept, the facilitator will wear the facilitator's badge to meet the facilitator. However, there is the possibility that the stakeholder does not recognize the badge, and then the dialogue to show the neutrality of the facilitator will not happen. Therefore, in the intermediate concept, the facilitator brings the badge and put it on in front of the facilitator at the beginning of the SVI process in order to make sure the dialogue will happen.

The SVI poster

The SVI poster has been refined in the intermediate concept. In the intermediate concept, the approaches of the SVI process have been changed, therefore, the SVI poster has been refined to a new version (figure 6.16) to match the approach. The steps were introduced as simply as possible to make the stakeholders could perceive a simple and not tiring process.

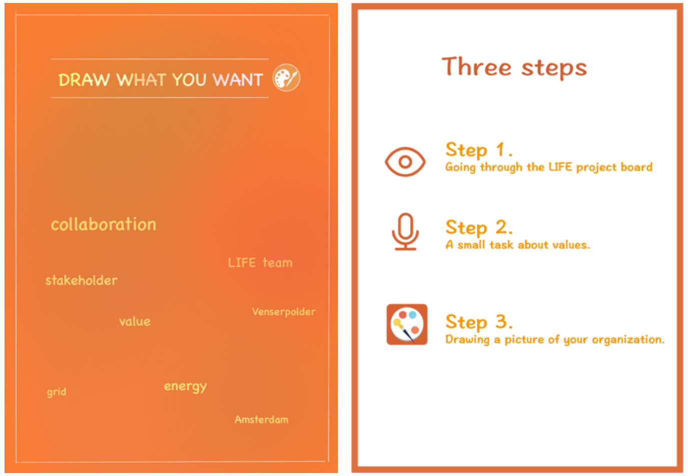


Figure 6.16: The new SVI poster

The LIFE project board

The section 4 of the LIFE project board has been refined in the intermediate concept. The aim of this section is to show the importance of the SVI process again through containing this task in the section 4 "our tasks" in the LIFE project. However, the SVI process has not been emphasized in on the board which lead to an ignorance of the place of SVI. During the evaluation session of the preliminary concept, this shortage was mentioned by project managers. In the intermediate concept, the SVI process is emphasized in the section 4 in order to attach stakeholders' attention to indicate that the SVI process is an essential task as other tasks in the LIFE project (figure 6.17).

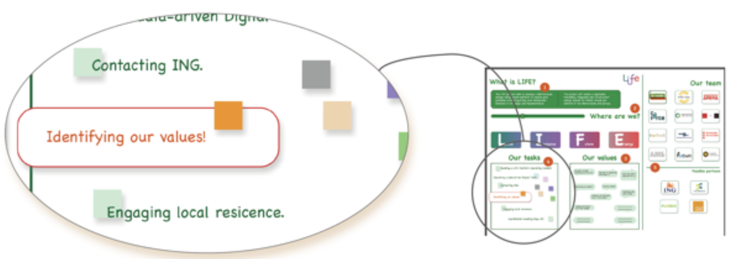


Figure 6.17: New section 4 of the LIFE project board.

Color index

After adding the closed-ended task as the new stage to identify stakeholders, the color index has been refined to make a smooth flow of the SVI process. In the preliminary concept, the color index contains value examples and stickers that could imply values to help stakeholders choose their desired value and write down their other desired values. But this intervention, which only has one card, does not provide really useful help for the facilitator to elicit the desires of the stakeholder. Therefore, the closed-ended task was created to guide the facilitator to achieve this goal and the color index will not be responsible for eliciting desired values but only be used as an index for demonstrating. In the intermediate concept, the value examples were deleted because there are value cards chosen by the stakeholder. Stickers were kept being used with colors to create their organizational image because people make "symbolic" choices whenever they are creating "symbolic" things, and interviewers can ask them to reflect on the meaning of those choices as discussed in 6.3.1.

The new color index (figure 6.18) consists of two elements:

1. blank areas that facilitator can write stakeholders desire values down.
2. Blank color boxes for filling chosen colors by stakeholders.

Figure 6.18: the new color index

Creating organizational image

Different from the preliminary design, stakeholders' desired values are expected to be identified through the closed-ended task. To better understand their desired values, the stakeholders will be asked to show their priorities on those chosen values in this step. The step of creating an organizational image will be conducted combined with filling the color index. After choosing a color for the stakeholders' desired value, the stakeholder will be asked to use this color to draw the organizational image. In the preliminary concept, the stakeholder could choose where to use the color randomly, but in the intermediate concept, the stakeholders will be asked to rank their chosen values and use those corresponding colors to draw on different places of the organizational image. The biggest blank area of the boxes can represent the most important value. Therefore, this card should show blank sections with obvious different importance. So the following card version (figure 6.19) was chosen from the three styles that have been shown in the preliminary concept.

Figure 6.19: The organizational image card

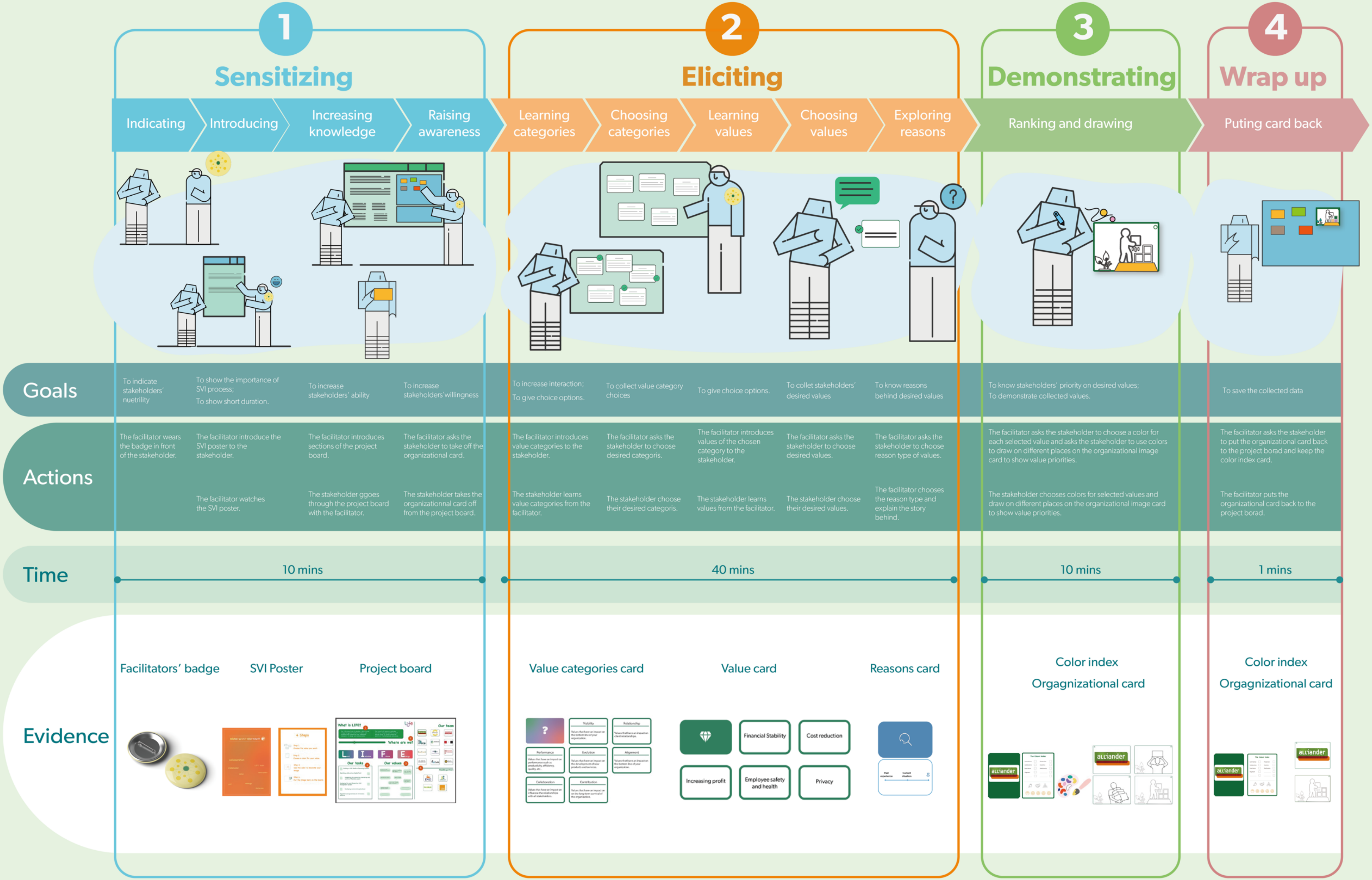


Figure 6.15: Journey map of the intermediate concept

6.3.5 Evaluation the intermediate concept

The evaluation sessions were conducted through role play sessions (Svanaes & Seland, 2004) with three participants from different majors of TU Delft. This evaluation session aims to get feedbacks about the experience of using the intermediate concept from different perspectives: the facilitator's perspective and the stakeholders' perspective, and to test whether the concept could help the facilitator identify desired values of stakeholders.

Participants

The participants are composed of three students to play different roles (one "facilitator" and two "stakeholders") in the sessions and me as an observer.

Role play research questions

To investigate stakeholders' willingness to express their desired values during the SVI process after the role play session

- How is the communication of the concept?
- Did the willingness of stakeholders increase during the process?
- Did the stakeholder have the willingness to talk about desired values before the process?
- How does each element influence their motivation?

Have you expressed all your desired values during the process?

To investigate stakeholders' willingness to express their desired values during the SVI process after the role play session

- How is the concept usability?
- Does the concept increase stakeholders' ability to speak out their desired values?

To investigate whether the concept could elicit desired values from stakeholders

- Do stakeholders speak out about their desired values during their process?
- Can the concept help the facilitator's work?

Procedure

In the role-play session, two participants were asked to play the role of stakeholders and the other one to play the role of facilitator. Before the role play session starts, a table with basic information about the organizations they will play the role of and the introduction webpages of the two organizations and the LIFE project was given to participants who will play roles as stakeholders, in order to help them think as a stakeholder. These two participants were asked to think about their goals and desires in the LIFE project. For the participant who will play the role of a facilitator, the goal is "identifying what values do these two stakeholders desire in the LIFE project" and the intermediate concept was introduced. The touchpoints were printed as materials that the "facilitator" could use. The whole SVI process was controlled by the "facilitator", and I played the role of an observer during the role-play sessions.

After the two sessions, the "facilitator" and two "stakeholders" gave feedback from their own perspectives by answering questions in a roughly 30-minute interview for each participant. The materials and interview questions used in these sessions can be found in Appendix 5. Especially, for the "facilitator", each design element was discussed again after the two role-play sessions.

Key takeaways from evaluation sessions

The given options are not enough to identify stakeholders' desired values as much as possible.

The value options under value clusters are not enough to collect desired values from different types of stakeholders. The given options are not enough, and stakeholders may not have the willingness to make a supplement even if their desired values are not in those options. "Stakeholders" also said that they sometimes don't want to add more if there are desired values which are not in the choices because of the time limitation and boring feeling.

The step of leaning seven value clusters is boring and embarrassing.

All the participants considered the step of leaning seven value clusters boring and a little embarrassing. They just read the sentence that explained the cluster and then move to the next one. And there is little interaction during this step.

The procedure of the closed-ended task is a little confusing.

After making choices on value clusters, the facilitator started to dive into one cluster, but she just made a random choice. There is no guidance about which one she should start from. Moreover, the process that the facilitator chose one of the selected clusters to start from made the stakeholder feel that he had no initiative because he did not have the right to choose which cluster to start the next round of discussion but could only follow the facilitator's choice. because he did not have the right to choose which one to start the next round of discussion but could only follow the facilitator's choice.

The process that the facilitator writes down stakeholders' desired values on the color index makes stakeholders feel ignored and feel comfortable for being recorded, which is negative for eliciting values.

Stakeholders considered the time when the facilitator write down their choices uncomfortable. One "stakeholder" has the feeling that he didn't know what to do or say at that time. This action interrupted the conversation between the "facilitator" and the "stakeholder".

6.4 Conclusion

This chapter conducted two design iterations. The key takeaways from chapter 6.3.4 lead to several improvement directions for the final iteration, which can be summarised below. Following the directions, I reviewed earlier ideation outcomes and conducted several small ideation sessions individually, and refined the prototypes of several touchpoints. As a result, a final concept is developed and presented in Chapter 7.

The improvement directions:

As the core strategy of the closed-ended task is giving options to stakeholders rather than asking them open-ended questions about their desired values, options for should be as complete as possible to avoid incomplete results. Therefore, the main direction for improvement is to enrich choice options for the closed-ended task.

The procedure of the closed-ended task needs to be refined. According to feedback from role-play sessions, this process of learning seven value clusters need to be refined to be less boring and increase interactions between the facilitator and the stakeholder to remove participants' feeling of embarrassment.

The visual style of cards needs to be refined to make the process more interesting for the stakeholder.

The way that the facilitator uses to collect stakeholders' selected values needs to be refined to improve the experience of the stakeholder in this step rather than writing down their choices when communicating with the stakeholder.

The guidance for the facilitator needs to be refined to be more detailed to show exact steps for the facilitator about what actions he/she could do and what principles he/she could follow to take action.

7. Deliver

By incorporating the insights from the last iteration, the final concept, “A closed-ended SVI process”, is developed to fulfil the project’s objective. The concept is presented in a system map and a process flow to systematically show the whole concept. Additionally, several touchpoint designs are explained in detail together with the process flow to show how the concept map with the earlier research analysis, design opportunities and insights.

7.1 Concept overview

The design activities in the previous chapters led to the final process concept called “The SVI process for multi-stakeholder projects”. The goal of this design is to offer a stakeholders’ value identification process, thereby assisting the facilitator to elicit identify stakeholder's desired values in the project from contact persons of their organization. The whole SVI process is designed to be used in a one-on-one mode because of the sensitivity of the topic on desired values as discussed in 4.2 and 4.4.

To systematically describe the concept with different focus, the concept is presented in a system map the flow of the SVI process separately. The system map (figure 7.1) is created to show a summarization of the whole process and tools used in the process. It visualizes all the actions that the participants in this process need to do from both the facilitator’s perspective and the stakeholder’s perspective. The process flow (figure 7.2) aims to illustrate all the steps that the facilitator will throughout the process from the facilitator’s perspective. The high-quality images can be found in Appendix 15.

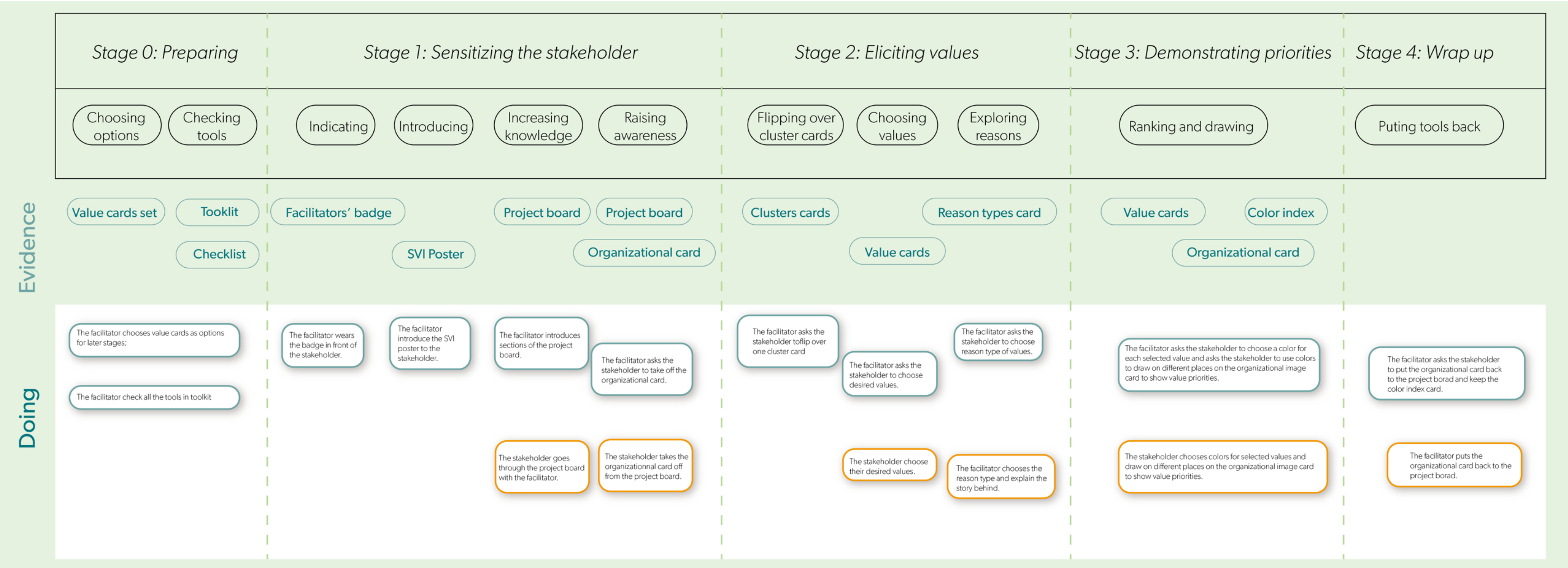


Figure 7.1: System map the final concept

Pre-stage: prepare

Design opportunity 1

The design could show facilitators the type and attribution of the stakeholder.

The concept of the pre-stage is a stage for the facilitator to prepare for the upcoming SVI process. It aims to bring the type of organization out to the facilitator and prepare for the SVI process. It provides the solution to the design opportunity 1.

Identifying organizational type

The facilitator could identify the stakeholders' type by placing it in a suitable group of the organization. Concluding from previous research, stakeholders could be grouped into different clusters based on the type of their organization.

Choosing values cards

After identifying the type of organization, the facilitator chooses value cards each cluster in order to give the stakeholder enough options for to help the stakeholder give answers easily. The facilitator chooses value cards from the value card databases according to the type of stakeholder.

This is a strength of this concept for identifying stakeholders' desired values in multi-stakeholder projects because the closed-ended task (in stage 3) is easy to replicate and modify as per the requirement. The options can be customized on the basis of the type of organization.

Checking tools list

The other thing that the facilitator needs to do is check all the tools that will be used in the later stage.

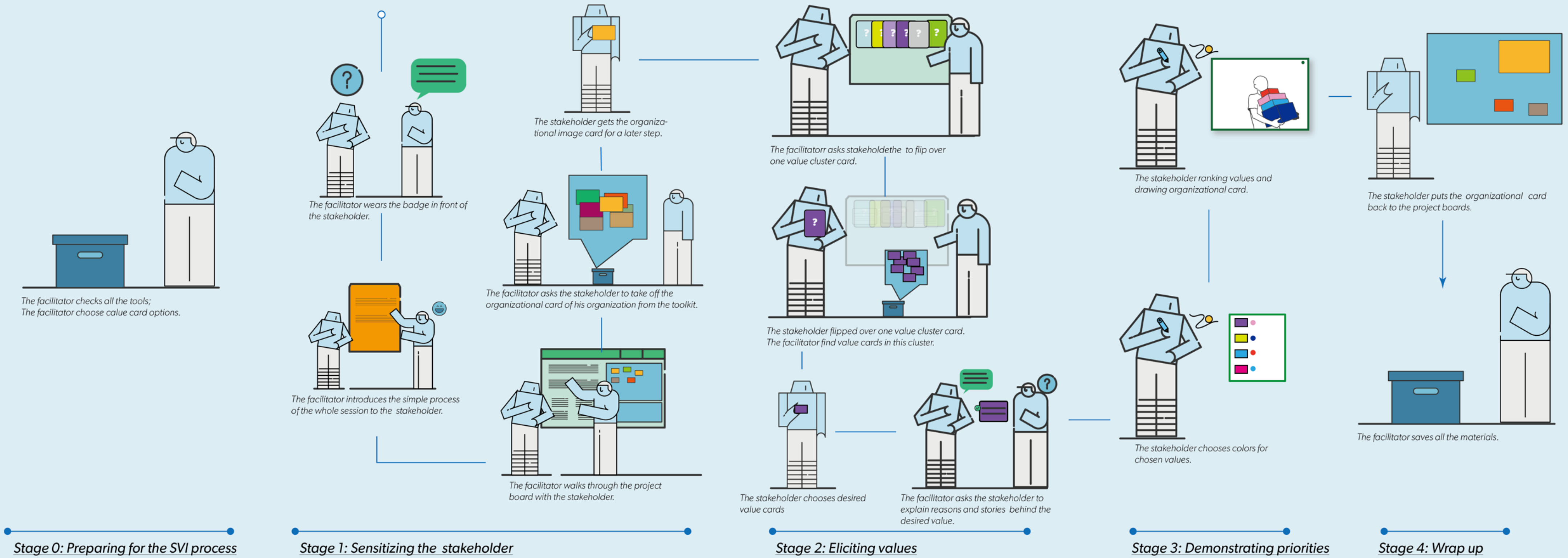


FIgure 7.2: The process flow of the final concept

The touchpoints in this stage are the value card sets, the SVI toolkit consists of all the materials that will be used in later stages of the SVI process, and a checklist of the toolkits

The value card set

The value card set consists of dozens of values from seven different levels from different types of organizations' perspectives. The complete set can be found in Appendix 6.

The SVI toolkits and a checklist

All the materials and touchpoints are included in the SVI toolkit. To make sure the completeness of the toolkit, a checklist was created for the stakeholder at the pre-stage.

The checklist

1. A facilitator's badge
2. A poster showing steps for stakeholders
3. A project Poster: the small size version of the Project Board
4. Seven value clusters cards
5. Value cards for each value cluster
6. A timeline card to elicit the story and reason behind desired values
7. A color index card
9. All the organizational image cards
10. Marker pens in various colors

Stage 1: Emphasizing the stakeholder

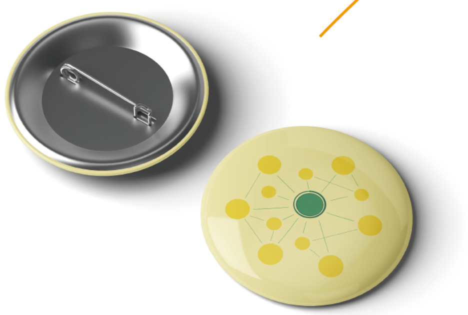
The concept of the first stage provides solutions to design opportunities 2~5, 6, 9, 10, and 16. It aims to build the stakeholder's trust in the facilitator and give the stakeholder the feeling that the whole process is simple and not time-wasting for them to increase their willingness to speak out their desires. It achieves this goal through the following steps.

Step 1. Building trust.

In this step, the facilitator wears the facilitator's badge in front of the stakeholder at the beginning of the SVI process. It aims to build the stakeholder's trust in the facilitator by indicating the neutrality of the stakeholders' attribution. As discussed in chapter 4.4. when the communicator lacks the recipient's trust, the accuracy the of information provided by the recipient suffers. By indicating to the stakeholder that the facilitator is in a neutral position in the project, the stakeholders' trust in the facilitator could be increased, and then it would be more possible to get accurate information from the stakeholder.

Design opportunity 5

The design could indicate the neutral attribute of the facilitator.



Touchpoint 1: The facilitator's badge

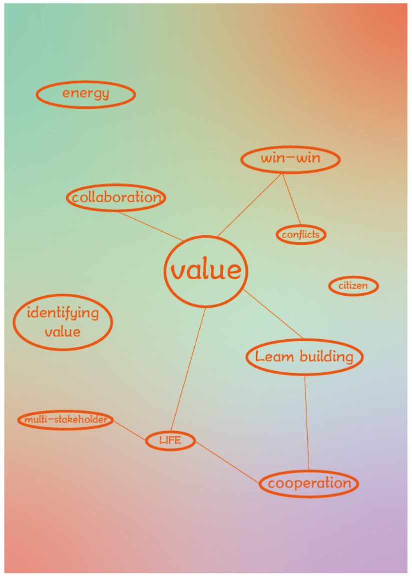
The facilitator's badge has a pattern which means the facilitator is a hub in the project connected to all the stakeholders. The badge is used to spark the stakeholder's curiosity and facilitate a dialogue between the facilitator and stakeholders on it. In this way, the facilitator could show the badge to stakeholders and introduce its meaning, in order to give an impression of a neutral position to stakeholders.

Design opportunity 7

The design could communicate the simplification of the SVI process and reduce stakeholders' perceiving negative experiences..

Step 2. Showing simplicity

In this step, the facilitator gives the poster to the stakeholder and briefly introduces the interesting exercise of today: drawing a picture for your organization. It aims to communicate the simplicity of the whole process by showing a simplified steps list to the stakeholder. It targets stakeholders with the “Pragmatist” label who care about the practical value of activities in the project in order to reduce their perception that the SVI process is a waste of time.



Touchpoint 2: The poster for the stakeholder

The poster given to the stakeholder was designed to have two functions: indicating the value of the SVI process by placing some words at the front side such as collaboration, value, win-win, and LIFE team.

Communicating the practical value

Target the stakeholders with the label “Pragmatist”

Communicating the practical value and the simplification of the process would increase the willingness of “Pragmatists” by showing relevant words that can indicate the benefits of value identification.

Step 3. Diving into the project

In this step, the facilitator gives the In this step, the facilitator walks through the project board together with the stakeholder. The project board could be implemented on the wall of the office room so that stakeholders could see it at their daily working time. This step aims to contribute to increasing both the willingness and ability of the stakeholder to speak out desired values.

1. Firstly, the facilitator introduces section 1 "what is LIFE"
To make the stakeholder recall the background and the aim of the LIFE project.

2. Introducing section 2 "Where are we"
To bring the stakeholder to the current stage of the project. You as the facilitator could emphasize the results that the project has achieved until now, to give the stakeholder information for updating their desired values.

3.Introducing section 3 "Our tasks"
To involve the SVI as an important task as other tasks in the project, and communicate the importance of identifying desired values. Here are some viewpoints that you can use to emphasize the value of identifying stakeholders' desired values:
"Only by knowing what everyone wants to achieve, we can move in this direction in the future work, and finally we can try our best to meet everyone's expectations."
"There may be some differences in the values that everyone wants to achieve. Knowing these differences will help us to further negotiate and finally achieve better cooperation and win-win results."

4. Introducing section 4 "Our values", mentioning that there are some values from previous conversations with other stakeholders.
To show the facilitator some examples of other stakeholders' desired values in order to reduce his perception of the sensitivity of the topic and make him feel that he is not the only organization whose desired values are being collected.

5. Introducing section 5 "Our team"
To reinforce the stakeholder's perception organization that he/she belongs to is an important partner of the project.

Design opportunity 3

The design could bring stakeholders to the present stage of the project and point out the connection between SVI and project progress.

Design opportunity 9

The design could increase new staff's knowledge.

Design opportunity 4

The design could bring stakeholders to the present stage of the project and point out the connection between SVI and project progress.

Design opportunity 16

The design could be incorporated with stakeholders' general routines or touchpoints.

Design opportunity 2

The design could raise stakeholders' awareness of their role as project partners.

Touchpoint 3: the project board.

The project board for "Project freshman"

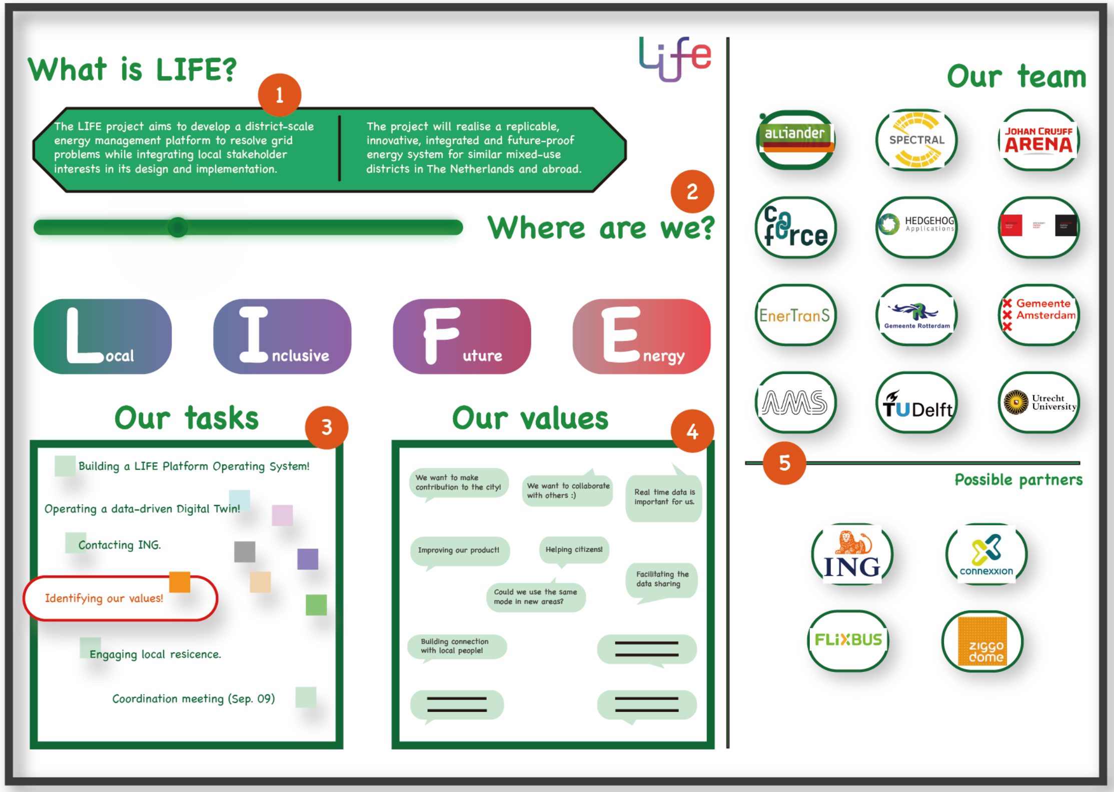
(Section 1&2) This incentive is intended to improve project freshmen's ability to express desired values. By giving information about the introduction and the goal of the project, and information about the current stage situation to the stakeholder, this incentive could increase the stakeholder's ability to speak out values through increasing their knowledge about the project.

The project board for "Pragmatist"

(Section 3) This incentive is intended to motivate pragmatists' willingness of speaking out about desired values. By emphasizing the task "Identifying our values" in section 3, the facilitator could start an explanation about the importance of the SVI process, thereby communicating the practical value to pragmatists to increase their willingness of expressing desires.

The project board for "Euphemistic talker"

(Sections 4 & 5) This incentive is tended to motivate euphemistic talkers' willingness of speaking out about desired values. Showing the euphemistic talk that they are part of the partnership to raise their awareness that they need to take responsibility as a project partner, and showing some value examples collected from other stakeholders to indicate that they are not the only stakeholder experiencing this process, thereby reducing their worry about the insensitiveness of the topic.

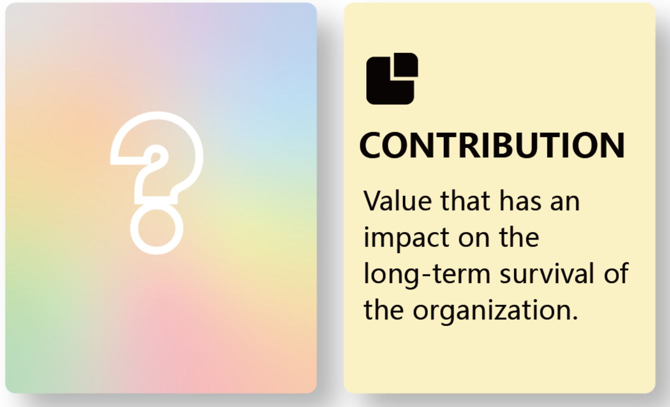


Stage 2: Eliciting values

After the stakeholder gets the organizational card, the SVI process goes to the second phase: eliciting desired values from the stakeholder. The concept of this stage aims to identify the stakeholder's desired values by assigning several closed-ended tasks to the stakeholder.

Insights 2

Using concrete tasks is helpful to explore abstract concepts



Step 5. Triggering curiosity and choosing a cluster card.
In this step, the facilitator separates the seven cards introducing the value cluster with the question mark side up on the table, and then asks the stakeholder to randomly flip over a card. This step is designed to trigger the stakeholder's curiosity about these cards and increase the interaction between the facilitator and the stakeholder.

Touchpoint 4: Value cluster cards
These seven value cluster cards were developed from the seven levels of organizational needs, ranging from basic survival needs to social contribution, as discussed in chapter 6.3.3. These seven clusters could cover most of the stakeholders' desired values. The complete value cluster cards can be found in Appendix 6.

Step 6. Placing value cards and getting answers

After the chosen value cluster card is flipped over by the stakeholder, the facilitator recognizes which cluster it is. While the stakeholder is reading the cluster card, the facilitator finds value cards in this cluster from the toolkit and places them on the table separately.

After the stakeholder reads the cluster card, the facilitator asks a closed-ended question to the stakeholder: "Among these values in the selected cluster, which ones do you desire to get in LIFE?"

If the stakeholder says that there is nothing he wants among these options, then let him write down the value he wants on the blank value cards.

If the stakeholder says that he does not have the values he wants in this category, let him turn over the next value cluster card just like in step 5.

Only after the stakeholder makes choices of desired values, the process could be proceeded to the next level: identifying the story behind desired values.

Insights 5

In a conversation, closed-ended questions are efficient in getting responses.

Touchpoint 5: Value cards

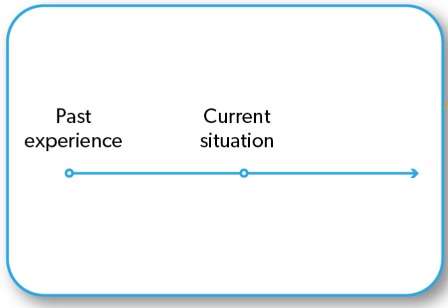
The touchpoint used in this step is a set of value cards from the selected value cluster. For each cluster, there are several different values that the stakeholder might desire. These value card options were selected by the facilitator at the pre-stage according to the type of organization. Different types of organizations may have different desired values even in the same value cluster. For example, for commercial companies, their desired value in the viability cluster is "gaining profit", but for an academic organization, it may be "making an impact on the scientific progress". Appendix 7 provides the complete card set.

Step 7. Diving into the story behind.

The goal of this step is to elicit reasons and stories behind values from the stakeholder. Instead of directly asking "Why do you choose this value? " , this design provides the card with two directions to elicit reasons behind values: desired values because of previous experiences, and desired values because of the current situation.

Touchpoint 6: Story types card

This incentive aims to give options for the stakeholder to choose a direction to further explain the story and reason behind the chosen value. It consists of an icon referring to the future goal, a timeline, and two nods to show two different types of stories.



Design opportunity 13

The design could provide various and flexible ways to facilitate expression.

Step 8. Moving to the new cluster

After knowing the story behind one chosen value, it is time to move to the next one. After all the chosen values of one category have been discussed, the facilitator asks the stakeholder to flip over a new value cluster card.

Stage 3: Demonstrating priorities

Step 9. Choosing colors and creating the image

After the stakeholder makes choices on values from all the seven value clusters, the SVI process moves to a new stage: demonstrating the priorities of chosen values.

To better understand their desired values, the stakeholders will be asked to show their priorities on those chosen values in this step. The step of creating an organizational image will be conducted combined with filling the color index.

In this step, the facilitator places the chosen value cards of the stakeholder on the color index and asks the stakeholder to choose colors. After choosing a color for the stakeholders' desired value, the stakeholder will be asked to use this color to draw the organizational image.

Stage 4: Wrap up

In the last process phase, the created organizational card will be collected by the facilitator to put back onto the project board or into the toolkit. The color index card which corresponds to s values and colors will be saved by the facilitator to keep it secret to decrease the stakeholder's worry about the sensitivity of these values.

Insights 6

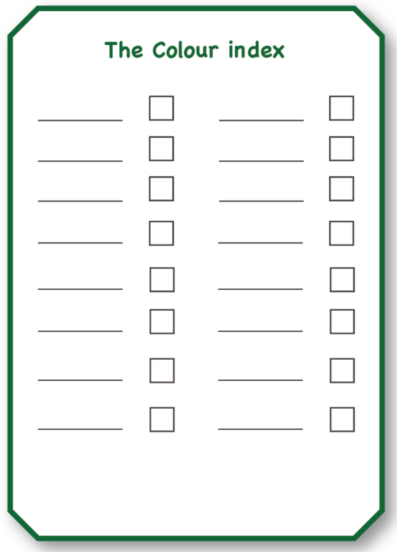
The design could use construction tasks, especially drawings to identify stakeholders' thoughts.

Design opportunity 13

The design could provide various and flexible ways to facilitate expression.

Touchpoint 7. The organizational card and the color index

The organizational card consists of several blank areas that occupy different sizes and at different levels. It can be used to represent the stakeholder's priorities on different values in different ways: A value with a higher level is more important or a value with a larger area is more important. To represent values on the organizational card, the color index card will be used to choose and record colors. The stakeholder will be asked to choose one color for each desired value.



7.2 Guidebook for the facilitator

Guidance for the facilitator

The goal of this booklet is designed to give you, the facilitator to identify stakeholders' desired values and detailed guidance about the exact steps that they need to take in the SVI process.

Steps to proceeding the SVI process

Stage 0. Preparing

- Before going to the meeting with the stakeholder, you as the facilitator need to choose value cards from the cards set according to the type of organization of the stakeholder that you are going to meet.
- After choosing value cards that are possible to be chosen by stakeholders, you can add more value choices as the facilitator based on your knowledge of this stakeholder.
- Bring the SVI toolkit as materials that you will use in the process, check the list of tools:
    1. A facilitator's badge
    2. A poster showing steps for stakeholders
    3. A project Poster: the small size version of the Project Board
    4. Seven value clusters cards
    5. Value cards for each value cluster
    6. A timeline card to elicit the story and reason behind desired values
    7. A color index card
    8. All the organizational image cards
    9. Marker pens in various colors

Stage 1. Starting the conversation

Step 1. Wearing the facilitator's badge in front of the stakeholder.

Goal: To have a conversation on the meaning of this badge to show your neutral attribution in this project.
* You as the facilitator don't need to introduce the badge after the facilitator asks about it. As he puts his eyes on you when you wear the badge, you can take the initiative to introduce the badge and your neutral attributes.

Step 2. Giving the poster to the stakeholder and briefly introducing the task of this meeting.

Goal: To show the stakeholder an overview of today's communication process, and the steps that the stakeholder needs to do shown on the poster are very simple and brief in order to not make the stakeholder think this will be a difficult meeting to take part in.

* Don't introduce all the steps of the SVI process in detail at this time.

Step 3. Walking through all the sections of the project poster

1. Introducing section 1 "what is LIFE"
   To make the stakeholder recall the background and the aim of the LIFE project.
2. Introducing section 2 "Where are we"
   To bring the stakeholder to the current stage of the project. You as the facilitator could emphasize the results that the project has achieved until now, to give the stakeholder information for updating their desired values.
3. Introduce section 3 "Our tasks"
   To involve the SVI as an important task as other tasks in the project, and communicate the importance of identifying desired values. Here are some viewpoints that you can use to emphasize the value of identifying stakeholders' desired values:
   "Only by knowing what everyone wants to achieve, we can move in this direction in the future work, and finally we can try our best to meet everyone's expectations."
   "There may be some differences in the values that everyone wants to achieve. Knowing these differences will help us to further negotiate and finally achieve better cooperation and win-win results."
4. Introducing section 4 "Our values", mentioning that there are some values from previous conversations with other stakeholders.
   To show the facilitator some examples of other stakeholders' desired values in order to reduce his perception of the sensitivity of the topic and make him feel that he is not the only organization whose desired values are being collected.
5. Introducing section 5 "Our team"
   To reinforce the stakeholder's perception organization that he/she belongs to is an important partner of the project.

Step 4. Ask the stakeholder to take out the card of his/her organization from all the organizational cards, and tell the stakeholder that is material for an exercise in a later step.
Goal: To Reinforce stakeholders' feeling that they are a part of the project partners' consortium.

Stage 4. Starting the closed-ended task

The core idea of this stage is to give stakeholders value options to choose from rather than directly asking them for answers about desired values. Here are the steps for you as the facilitator to follow:

1. Showing the side of the 7 value clusters cards with the question mark icon;
2. Spreading them out on the table one by one;
3. Asking the stakeholder randomly choose one to open;
4. Finding the value cards contained in this category in the toolkit and take them out when the stakeholder is reading the meaning of this value cluster card;
5. Showing value cards in this cluster to the stakeholder and asking him/her to choose desired values;
6. Using the story types card to identify reasons behind the chosen value;
7. After all the chosen values in one cluster have identified the reason and story behind them, you can move to the next cluster.

Stage 3: Demonstrating priorities of chosen values

The aim of this stage is to identify stakeholders' priorities on their chosen values. Here are the steps you as the facilitator follow:

1. Placing all the chosen value cards on the color index card;
2. Asking the facilitator to choose one color to represent one value;
3. Asking the facilitator to use these colors to draw on different blank areas of the organizational card to show their priorities on values.

Stage 4: Wrap up

In the last stage, you as the facilitator need to follow these steps:

1. Asking the stakeholder put the organizational card back on the project board or give it to you to save it in the toolkit.
2. Saving the filled color index card as a reference to read stakeholders' priorities on desired values.
3. Saving all the materials back to the toolkit.

8. Evaluation

This chapter explains the evaluation of the final design, the SVI process. By showing the final evaluation from three expects (feasibility, desirability, and viability), this chapter tests whether the design achieves the design goal defined in the chapter design statement. The achievements and limitations of the three aspects of the final design are discussed. Besides, some suggestions for concept improvements are listed for the further design development.

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8.1 Aim of the evaluation

The evaluation goal is to test whether the final design could achieve the design statement: help facilitators identify desired values, reasons behind and priorities of stakeholders in a multi-stakeholder project. This evaluation goal can be achieved by answering three questions:

Question 1: Is the design feasible to conduct by the facilitator in a multi-stakeholder project?

One user group of the SVI process will be people who could be facilitators in the multi-stakeholder project. In the LIFE project, facilitators could be the members of PM team and SEI team. The design should meet the needs of its user: facilitators. It should be feasible enough for them to implement it. To evaluate the feasibility of the final design, this question is to test whether the design is feasible for facilitators to use and conduct in their multi-stakeholder project.

Question 2: Is the design desirable to elicit stakeholders' desired values, reasons and stories behind desired values, priorities on desired values?

As stated in the design statement, there is no specific design provided for identifying stakeholders' desired values, and there are still weaknesses in the current methods and activities as analyzed in the chapter 4.2. The design should be able to elicit stakeholders desired values from contact persons of their organizations. This question is to test whether the design is desirable to elicit real stakeholders' desired values and to make them speak out about stories and reasons behind.

Question 3: Will the design be viable in different stages of a multi-stakeholder project and other multi-stakeholder projects?

The design should not only be feasible and desirable at present but also in the long-term. For the long-term aspects, the design should be viable at both the early stage and later stages of LIFE project, and other multi-stakeholder projects as well. This question is to test the viability of the final design in the multi-stakeholder project context.

8.2 Test set-up

To answering the three questions above, I set two different types of tests: the stakeholder tests and the facilitator tests. The facilitators and the stakeholders are two user groups of the final design. The facilitators will be the conductor of the design to implement the SVI process in the multi-stakeholder project, and the stakeholders will be invited by the facilitator to participate the process. Due to their different roles of using the design, I focused on testing different quality of the final design in the two different test sessions.

8.2.1 Stakeholder test

In stakeholder tests, I played as a facilitator to implement the final design in the LIFE project, focusing on experiencing the feasibility and desirability of the SVI process myself. I conducted two tests with real contact persons.

Participants

The participants of this session are V.L. from CoForce and C.F. from TU Delft. They are contact persons of their organization in the LIFE project.

The approach and materials

The two tests follow the same steps:

<u>Step 1: Preparation (1 hour)</u>

The goal of this step is to experience the feasibility of the real preparation approach for implementing the SVI process in the LIFE project as a facilitator. Playing as the facilitator, I followed the Guidebook for the facilitator and prepared materials that I need in the SVI process before meeting contact persons. Here is the list of materials:

- Digital - Slides which contain the goal of test, introduction poster to show the steps, LIFE project board, value cluster cards, value cards, color index card, and organizational cards. (See Appendix 8)
- Digital – Questionnaire and interview questions. (See Appendix 9)
- Physical – The facilitator's badge
- Physical – Introduction poster, LIFE project board, value cluster cards, value cards, color index card, and organizational cards. (Figure 8.1)

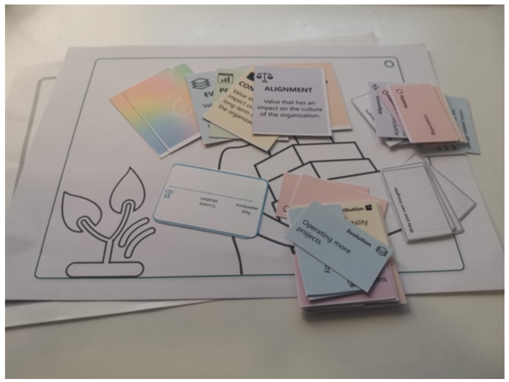

Figure 8.1: Physical materials

In this step, I chose value cards from the value cards set (Appendix 7) based on the type of stakeholder. I prepared two value card sets because there were two types of organizations.

- one set for academical organization, TU Delft.
- the other set for non-profit organization, CoForce.

<u>Step 2: Conducting the final design: the SVI process</u>

The step 2 was conducted to experience as a real facilitator to elicit values from contact persons, to test the feasibility and desirability of the final design. In this step, I stated that the goal of test is to get their feedbacks on the design, and I told each participant that I was playing the role of facilitator to identify their organizational desired values of joining the LIFE project. Introducing my role: a facilitator

- Introducing the steps contact persons need to do to
- Learning the LIFE project board together with the contact person
- Eliciting values from contact persons
- Demonstrating priorities of contact persons' chosen values

<u>Step 3: Questionnaire and interview</u>

In this step, I asked the contact person of each test session to finish a questionnaire and answer some questions to give their feedbacks on the whole SVI process from a stakeholder's perspective. The goal of this step is getting real stakeholders' views about their experience of participating in the SVI process to test the desirability and get feedbacks on the viability of the final design. The questionnaire and a list of interview questions can be found in Appendix 9.

This material consists of three parts:

- Part 1: To test the desirability of the SVI process.
- Part 2: To get contact person's feedbacks about their experience during the SVI process
- Part 3: To get contact person's feedbacks about their views on the values the design could bring and on the viability of the final design.

The detailed dialogues of the two stakeholder tests can be found in Appendix 10 (confidential).

8.2.2 Facilitator test

Differ from the stakeholder test, the facilitator test mainly focuses on testing the feasibility of the final design. The method used for facilitator test is an interview. During the facilitator test, the whole design and each design element were presented to the interviewee, and the interviewee gives their answers from their perspective on how feasible they think the design is. In this session, two tests were conducted with two managers from the PM team separately.

Participants

The participants of this session are two LIFE project managers: manager D.I and manager Z.F from the PM team.

The two managers were chosen as participants because they are going to play as facilitators in the LIFE project when there is a need to identify stakeholders' desired values. They will be the user of the SVI process. Besides, they are taking the responsibility of the project manager, so they have the experience of communicating with real contact persons from different organizations.

The approach and materials

In the facilitator test session, I firstly introduced the final design and all the design elements to the facilitator, and then asked for answers in the interview session to get facilitator's feedbacks on the feasibility of the final design as well as the desirability and viability. The two facilitator tests follow the same steps:

- Step 1: Recalling the project context and introducing the design goal. (2 mins)
- Step 2: Introducing the final design and all the design elements. (10 mins)
- Step 3: Interviewing and getting feedbacks. (40 mins)

After introducing all the details of the final design, I interviewed each manager from three perspectives:

- Part 1: To get feedbacks on the feasibility of the final design.
- Part 2: To get feedbacks on the desirability of the final design.
- Part 3: To get managers' view on the viability of the final design

The materials I used in this session are slides (Appendix 11), questionnaire & interview questions (Appendix 12). The detailed dialogues of the two stakeholder tests can be found in Appendix 13 (confidential).

8.3 Evaluation results: Analysis and discussion

This section presents the results of all the evaluation tests. In this section, three qualities (feasibility, desirability, and viability) of the final design will be discussed to answer the three questions proposed in chapter 8.1. The results (Appendix 14) of all the evaluation tests will be used in this section.

8.3.1 Feasibility: the condition of concept implementation

As described in chapter 8.2, the feasibility of the final design, the SVI process, was tested in both stakeholder tests session and facilitator tests session. As the final design, the SVI process, consists of five stages, it is more structured to discuss the feasibility of the design based on different process stages. Here are the findings below. Green represents positive feasibility and orange represents aspects that are not feasible enough yet.

Findings for the whole design:

1. The time spent to implement the SVI process is acceptable for the facilitator.

During the two tests with project managers, both the participants gave high scores at the statement "The time spent is acceptable for me." One for 8 scores and the other for 7.5 scores. This represents that it is feasible to implement the final design into the LIFE project for these two project managers in terms of the time spent.

One manager mentioned the overall time spent for all the stakeholders in one multi-stakeholder project, but she still thought it is feasible to implement the concept because the facilitator is hired for this work.

"I think it's feasible, especially if the facilitator, is hired by the multi-stakeholder group to really prepare this and they can go on with their work. While the facilitator is part of the work at that time" – D.I., project manager

2. The overall design is feasible and easy to conduct.

During the two facilitator tests, both project managers gave high score when talking about whether the process is easy to conduct. One gave 8 scores and the other gave a score between 8 and 9 as demonstrated in the Appendix 14. This indicates that the final design, the SVI process, is easy to conduct for the two possible facilitators.

Stage 0: Preparing

1. The provided materials ensure the feasibility of the design. The guidebook offers a clear flow.

During the preparing stage, I played as the facilitator and followed the guidebook and the check list (see chapter 7.2) to prepare materials for the meeting with contact persons. The process is smooth and consider-free.

The value card set can save facilitator's time of preparation.

In the two stakeholder tests, the time I spent in the preparation stage is different. For TU Delft, I used less than 20 minutes to choose value cards from the Appendix 7. But for CoForce, it spent around 1 hour to create new value cards because there is no value card for non-profit organizations in Appendix 7.

2. Unexpected time for preparing materials.

For the two stakeholder tests, I prepared both digital and physical materials. There is unexpected time spent in each session.

For preparing digital materials, I spent less than 10 minutes to place all the materials in slides: the introduction, the poster showing steps for stakeholders, all the value cluster cards and value cards, color index card, and organizational card. But I spent 5 minutes to divide the organizational card to separate parts to make it can be filled digitally (See appendix).

For preparing physical materials, I spent around 15 minutes to print all the files and cut cards into separate ones as shown in figure 8.1.

3. The feasibility of stage 0 can be influenced by facilitator's knowledge about stakeholders.

It is necessary for the facilitator to have knowledge on the targeting stakeholder in the preparation stage.

When preparing value cards for CoForce, I spent more time because I have limited knowledge about CoForce. Therefore, I searched online to find values of non-profit organizations and then created cards with my own understanding. That influenced the experience of the contact person and then influenced the desirability of the design.

The manager Z.F also see the preparing stage as the most challenging one. As he stated, the facilitator needs to carefully think about each of the perspectives and try to make good choices for stakeholders.

"So you really have to think very carefully about the project and from each of the perspectives and try to... because it's a closed question instead of open question, then you need to have good choices. I think that's the main challenge." – Z.F, project manager

Improper value cards lead to contact person's negative experience during the SVI process.

During the test with V.L from CoForce, I got negative feedback on the offered value card options. The options contain some values about clients, customers, and fundings which V.L thought are nor suitable for CoForce. I created value cards for non-profit organizations, but V.L subdivided CoForce into the type of Voluntary organizations. This made him feel uncomfortable during the process of choosing values.

"I think of course that's how it works with the model, but you try now to put all kind of ideas and thoughts into a model. For example, for CoForce, all these questions or statements you made there were not set suitable for…" – V.L, CoForce

"The LIFE project, you have universities, it's more academical…CoForce is a voluntary organization" – V.L, CoForce

And V.L gave 6 scores on the statement "The process is clear for me", 7 scores on the statement "The process is effortless for me." Because he was not satisfied with the provided value cards.

"I think then it's right now six. And I tell you this because in the beginning I had some confusion about the questions also for the organization, for CoForce. So I was not feeling comfortable with some kind of interest you had." – V.L, CoForce

"I think it's a seven because we have now some kind of confusion about these questions." – V.L, CoForce

Stage 1: Sensitizing the stakeholder

1. Provided materials make the stage 1 feasible to conduct.

During the stage 1 of each stakeholder test, I didn't spend extra time or effort except following the guidebook. With the assist of the materials, the time spent for this stage is around 5 minutes.

2. The hybrid SVI process leads to missing steps.

Both stakeholder tests happened online by Teams, but not all the materials were transferred to an online version. For example, the facilitator's badge is prepared in a physical way rather than a digital badge. But unfortunately, I forgot to wear it and mention it during the test with CoForce because this step is not in the prepared slides.

Stage 2: Eliciting values

1. The process is smooth to conduct.

The seven value clusters and value cards for each cluster make the stage 2 structural and clear to conduct.

After starting to talk about values, I just went through each value clusters one by one with the contact person. There is no extra effort needed in this stage. Both stage 2 in stakeholder tests spent around 30 minutes. After finishing one value cluster, it's easy to move to the next one because I only need to show left cards on the table again. In one value cluster, the contact person chose several value cards together sometimes but there was always an explanation follows behind their choices.

Project manager Z.F agree that it's easy to conduct this stage as well. He thought it's the easiest part if the facilitator could have those value cards in this stage. And he gave a score between 8 and 9 to "The process is easy to conduct."

"I think once those values cards are there. Then it's easy to just go through the process" – Z.F, project manager

2. The feasibility of stage 2 relies on the prepared value cards.

Value cards are options given to contact persons to finish the closed-ended task. Suitable value cards would make the stage 2 easier to conduct for the facilitator. As discussed in stage 0, improper value cards make the contact person not comfortable. Besides, improper value cards lead to contact person's confusion about values, and then lead to more explaining time.

Stage 3: Demonstrating priorities

1. Enough materials make sure the clear flow of stage 3.

After finishing each value cluster, chosen value cards would be placed on the color index card, so the end of stage 2, all the chosen value cards were on the color index card. This flow makes the stage 3 easier to conduct. In this stage, both the stakeholder tests spent around 10 minutes with the provided color index card and organizational card.

2. The digital test requires the facilitator to place value cards and filling colors for contact persons.

As shown in Figure 8.2, all the chosen value cards are placed on the color index card and the organizational card has been filled. But this was done by me in the two stakeholder tests because the tests were done online, and the contact person had no access to change the file. The unperfect digital version concept leads to extra efforts of the facilitator.

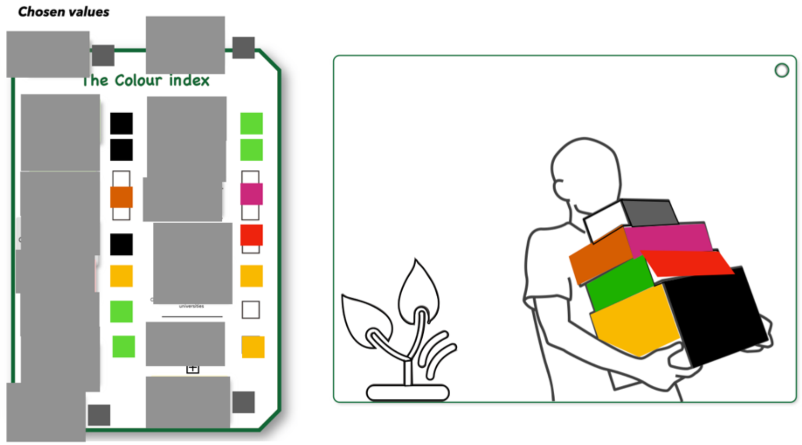

Figure 8.2: Filled color index and organizational card

Stage 4: Wrap up

It's easy to wrap up all the used materials.

With the check list, it's easy to put all the tools back. All the cards were put back to a folder and the results were saved online. This stage spent less than 1 minutes.

8.3.2 Desirability: Whether could the design do

In this section, the desirability of the final design is discussed based on the evaluation tests. Here are the results below. Green represents positive desirability and orange represents aspects that are not desirable enough yet.

1. The design can increase stakeholder's ability and willingness to express desired values.

According to the feedbacks of the two contact persons from the stakeholder tests, the design can increase their ability and willingness to express their desired values as a stakeholder. The one of them gave 7 scores and the other gave 8 scores when being asked "As a stakeholder, how much do you agree this design can increase stakeholders' ability/willingness to express desired values?"

2. The design can help the facilitator to identify stakeholders' desired values as complete as possible.

In the two stakeholder tests, I conducted the SVI process with TU Delft and CoForce and identified their organizational desired. The result is much richer than the previous interviews with them. In the previous interviews with them, I asked them "what is the motivation, goals or desired values of your organization for joining the LIFE project", but only got brief answers.

Besides, in the feedbacks given by the two contact persons from real stakeholders, they both gave 7 scores to the question "How much do you think the whole process can help you to express desired values as complete as possible?" (See Appendix 14)

The manager Z.F. gave a high score on this question as well. He thinks the value clusters could cover a lot of values.

"I think I'll put a seven or eight here. Yeah. Cause I think you can step through those categories with someone, and that covers quite a lot. Then that covers most of what someone values." – Z.F., project manager

3. The design could ensure a basic quality of identifying stakeholders' desired values.

As discussed in the previous finding, the design can help facilitators identify stakeholders' desired values as complete as possible. The design can ensure the basic quality of result as well. During the two stakeholder tests, I played as the facilitator but I'm not a project manager and I have only a few experiences about interviewing contact persons. The design could still be useful to help me identify values. So I believe that the final design could ensure a basic quality of identifying stakeholders' desired values even if the facilitator is quite new to the multi-stakeholder project.

One manager proposed the same view during the evaluation session. She gave 7 scores to the statement "This design could ignore the personal interview/communicate skills of the facilitator."

"I think I would give that maybe seven. Because I think it's crucial. The method is designed in a way that the facilitator doesn't need too much experience, I think it's so crucial that the facilitator does have a sense of communication skills." -- D.I., project manager

4. The design is desirable to identify the reason and stories behind values.

During evaluation tests, both managers gave high scores to this aspect. One for 8 scores and the other for 7.5 scores. The card for digging reasons and stories can help. But they both mentioned that it relies on the interview skills of the facilitator.

5. The time spent to implement the SVI process is acceptable for contact persons.

For the two tests with contact persons, the whole SVI process took around 45 minutes consist of Sensitizing (5 mins), eliciting values (30 mins), and demonstrating priorities (10 mins). Both the participants gave 9 scores at the statement "The time spent is acceptable for me." (Appendix 14)

6. More suitable options would increase the desirability of the design.

As discussed in the chapter 8.3.1, the improper value cards will influence contact persons. V.L from CoForce stated that "there should be more examples" after giving 7 scores to the question "How much do you think the whole process can help you to express desired values as complete as possible?"

7. The communicational skills of the facilitator can influence the desirability.

facilitator who has better communicating skills may get better results by using the SVI process. Even though there are many value cards, it's not enough for identifying so many different stakeholders in a multi-stakeholder project. The personal communicational skills are important in the SVI process. The feedbacks of two managers convinced this point.

The manager Z.F gave 3 scores to "The design could ignore the personal interview or communicate skills of the facilitator."

"Cause the, the personal skills of the facilitators always important in in making sure that the interviewee is relaxed and open to share information. And not make it too formal." – Z.F, project manager

"I think for some people, if it's clear what the value is, then you give them a closed set of options and it's not really appropriate.

Then they would say, well, this doesn't cover what my value is, so, so it depends on the person as well." – Z.F., project manager

8.3.3 Viability: the future condition of the design

In this section, the viability of the final design is discussed mainly based on the feedbacks from project managers.

1. The design could still be feasible at other stages of LIFE project.

With the development of a multi-stakeholder project such as LIFE project, there are some possible changes: new people will play as the facilitator; new stakeholders will join in; stakeholders' desired values will change. The final design, the SVI process, can still be feasible to implement it.

For new facilitators, the design can offer them the structural steps, related tools, and the guidebook about how to conduct. And the database of value cards would be richer at that time because there will be more values write down by contact person after each conducted SVI process. As said by the manager D.I., *"with the conducted process, the value cards would be more and more because you can add more value cards into the value data."* With these, the facilitator can implement the design to identify stakeholders' desired values even though he/she is new to the project. As discussed in 8.3.2, the design can ensure a basic quality of identifying values ignoring the communicate skills of the facilitator.

With new stakeholders joining, the implementation of the design will still be feasible because it is the similar situation with the beginning of one multi-stakeholder project. With the increased value cards, it's even more feasible to conduct the SVI process as the facilitator can have more possible materials to use.

The manager D.I. even suggest using the design every year to update values and tackle changes of stakeholders because new values may emerge.

"And I'm thinking maybe it is important in general to repeat this method every year, for example to update values or maybe new values emerge. So that might be good to incorporate in like the follow up". – D.I., project manager

2. The design could still be viable for other multi-stakeholder projects.

The main value that the design could bring to a facilitator and a multi-stakeholder project is the structure of the process and the value clusters to make sure the facilitator doesn't miss values. When implementing the SVI process into other multi-stakeholder projects, the structure and the core idea, the closed-ended task, will still be feasible to conduct and desirable to elicit values.

“I think structure. that's the main thing. It brings structure to such a process. And also making sure that you don't miss things by going through those categories, then you, you can be quite sure that you cover all aspects.” -- Z.F., project manager

3. A digital version might increase the viability of the design

The manager D.I. mentioned the digitalization trend for the possible future, but she thoughts that the physical way to meet face-to-face as the SVI process designed will still be valuable.

“we're moving to more digital oriented methods, I still think that just sitting down, having a face-to-face conversation in person like this method it always helps.” -- D.I., project manager

But a digital version of the design is important to have if the SVI process is expected to be used in the future. In the two stakeholder tests, part of the design was transferred to an online version. But it’s not interactive because those cards can only be edited at my side, the facilitator’s side. The manager Z.F. mentioned the digital version and digital interaction during the test as well.

“If you could make it digital doable online, digital, but still interactive. Then I mean, it's a process and following it as a logical process. Then it shouldn't change”

4. The way of saving data is not enough from the viability aspect.

In the final design, stakeholders’ desired values, and priorities can be demonstrated by value cards, color index card, and organizational card. Those cards will be saved by the facilitator. But the reasons and stories behind values couldn’t be saved, and there are no structural documents to demonstrate and save this data together.

8.4 Concept limitations and future possibilities

This section concludes the limitations of the final design from the same three aspects as discussed in chapter 8.3. Possibilities to overcome these limitations are presented as well.

The feasibility to conduct the SVI process is influenced by the knowledge about stakeholders of the facilitator. It is necessary for the facilitator to have knowledge on the targeting stakeholder in the preparation stage. Otherwise, the later stages will be influenced. Because the given value cards are limited to cover all the different types of stakeholders. Whether the prepared cards are suitable for the target stakeholder influences the stage of eliciting values. If the value cards are improper, the result of identifying stakeholders' desired value might be affected. Therefore, the desirability of the design will be influenced by facilitator's level of knowledge as well.

The second limitation of the concept is the dependence on facilitator's communicating skills. Even though the design could ensure a basic quality of value identification, a facilitator with better interview skills can get more satisfying answers when eliciting values from stakeholders. The feasibility and desirability of SVI process both rely on this factor, facilitator's communicating skills.

Another limitation of the concept is the way of saving data. The design can save stakeholders' desired values and priorities, but not reasons and stories behind them.

But there are possibilities to overcome these limitations. A digital version of the design could help a lot. With a digital value card database, all the desired values collected before can be used in later stages of the project and for new facilitators. Besides, the digital database is easier to share than physical cards. Facilitators can build the database together so that facilitators who have less knowledge about stakeholders and those who are not good at communicating skills can use the rich value card database to conduct the SVI process.

With the digital version, the data can be saved easier as well. Except value cards, stories and reasons behind values can be connected to the value itself.

9. Conclusion

This chapter presents the summary of the whole project, which consists of a project conclusion, project limitations as well as recommendations for future projects. Lastly, this chapter summarizes and reflects on personal performance, growth, and shortcomings in this project.

9.1 Conclusion

The core aim of this thesis was to investigate how stakeholders' desired values can be identified and demonstrated in the LIFE project.

To tackle this challenge, the project dives into the definition of multi-stakeholder projects, values, and stakeholders' desired values. The whole thesis is built on the understanding of these terms. The empirical research aimed to first understand the context of the LIFE project which is a typical multi-stakeholder project. It was found that stakeholders in the LIFE project could be grouped into four different clusters based on their organization types: the commercial cluster, the governmental cluster, the academic cluster, and the non-profit cluster. This result was used in developing the final concept. Secondly, the previously used methods for stakeholders' desires were explored and investigated. The strengths and weaknesses of those used methods were concluded. In the third section of the empirical research, factors that can influence stakeholders' willingness and ability to speak out about values were found. And the task "identifying stakeholders' desired values" was defined as a task throughout the whole multi-stakeholder project process. The process to identify stakeholders' values is defined as the Stakeholder Value Identification (SVI) process for concept development. And the role of "facilitator" was defined to be the person/team who will conduct the SVI process to identify stakeholders' desired values. In addition, four labels were created to describe different characteristics of contact persons from stakeholders which provided directions for the further development of the design. After the two research sessions, the insights from the research were developed into different design opportunities for the concept development phase. And the design statement of this thesis was further defined in the Define stage.

The research question "How can values that stakeholders want to get be identified in LIFE, a multi-stakeholder project context?" is answered by providing an SVI process that can be used by a "facilitator" to identify stakeholders' desired values in the multi-stakeholder project, LIFE. The SVI process provides a gradual process and a practical toolkit for the facilitator to identify stakeholders' desired value. It consists of various design interventions and strategies for increasing stakeholders' willingness and the ability for speaking out about values. At the core of the SVI process, a closed-ended task was provided to avoid stakeholders not answering questions by asking closed-ended questions and giving multiple options to stakeholders. After eliciting desired values of stakeholders and the reasons behind those values, an additional exercise was designed to identify stakeholders' priorities on those values. Therefore, the goal of identifying stakeholders' desired values in multi-stakeholder projects can be achieved by identifying the value itself, the stories and reasons behind values, and stakeholders' priorities on these desired values.

For the project management team and the SEI team who might play the role of a facilitator, the SVI process with a guidance booklet for the facilitator provides a more specific process way of value identification. This will give them a clearer understanding of how to identify the abstract desires of stakeholders, and values. Moreover, the SVI process provides a low-effort process for them because the approach to elicit abstract desires from stakeholders was changed to a more direct way, giving closed-ended tasks as well as options. They just need to follow the guidance booklet and conduct the SVI process without preparing other abstract and open-ended questions which are difficult for stakeholders to answer. Moreover, the SVI process can guarantee a basic quality of identifying values by reducing the dependence on the interview level and skills of the facilitator itself.

Academic value

This project contributes to the existing literature by implement closed-ended tasks into the field of eliciting stakeholders' values. Based on the exploration of elicitation techniques from different fields, their worth in eliciting abstract ideas was discussed and concluded. The final design, the SVI process combined several insights from literature of sociology and used these as inspirations, which proved the effects of these elicitation techniques.

9.2 Limitation and recommendation

Except the limitation and recommendation for the concept itself in chapter 8.4, this section presents limitations and recommendations of the whole project.

Research limitations and recommendations

In this thesis, the main target group is internal stakeholders of the LIFE project. Their roles, responsibilities, and types of their organizations were researched. In the LIFE project, I concluded four types: commercial, academic, governmental, and non-profit organizations as stakeholders. But for other multi-stakeholder projects, there might be different types of organizations or organizations in some sub-types. For example, CoForce is a voluntary organization in the non-profit type.

The strengths and weaknesses of previously used methods were not compared to research findings from related literature but just based on the personal hypotheses and feedback from the conductors of previous activities. The research in this part could be further explored not only from empirical research but also from literature to get conclusions from different perspectives and make the conclusion more reasonable.

In the chapter 6.3.1 further exploration. I learned principles and insights for eliciting skills from other field such as sociology and psychology. But due to the time limitation, there might be more methods about eliciting abstract ideas in literature. It is good to research more if there is enough time in future projects.

Concept design limitation and recommendation

For the concept development process, more tests with real stakeholders could be better. At the final evaluation, the design was tested with facilitators and real stakeholders. But in the first two iteration sessions, there are feedbacks from facilitators but no test on stakeholders. It's good to always test the design with real "users" even it's not the final design.

When developing concepts, there are some opportunities that are not tackled. For example, the opportunity 11 "The design could provide a process/system for internals for handing over tasks" to increase stakeholders' knowledge about the multi-stakeholder project. The SVI process provides incentives to increase stakeholders' knowledge during the process, which is a different direction from the opportunity 11. But there are future possibilities to implement this opportunity to increasing stakeholders' knowledge through different ways rather than only going through the project board during the SVI process.

Concept evaluation limitation and recommendation

In the final evaluation, the design was tested with 2 of 3 project managers who can take the role as facilitator in the LIFE project. But for stakeholders' side, there are two types of stakeholders not involved yet: commercial organization and governmental organization. It would be good if the design could be tested with contact persons from more different types of organizations.

Secondly, the final design has not been tested offline with stakeholders face-to-face. And the materials were not fully transferred to an online version. For future projects, the evaluation session could better be done in the way it was planned.

9.3 Personal reflection

At the start of the project, I have no experience with strategy design, stakeholder identification, stakeholder's desired values, and multi-stakeholder projects. I have obtained a greater grasp of these topics after the exploration with the support from Marina, Abhigyan, Hans Roeland, and other experts, I have gained not only a deeper understanding of these domains, but also more practical experience with the design process.

Defining a proper research scope

From stakeholder engagement to stakeholder value identification, there is a long distance. Before the empirical research, I didn't define my research scope clearly. This led to an unclear direction when doing literature study and desk research. As a result, lots of research were done on broad topics and time was wasted.

Scheduling, not directly conducting

At the early stages of research, I did lots of talks, meetings, and interviews with people in the LIFE project. But there is no structural planning about the goal and expected results of those activities. I got lots of raw data, but I was not sure about how to use them. In the later stage, those data were selected and used for generating insights, but there are still lots of redundant data. It is important to do accurate things and pick information I need.

Be critical, not just listening.

In this project, there are a lot of qualitative research. I have conducted lots of interviews with project managers and other experts in the LIFE project. They always give rich feedbacks for my research and design. I didn't critically pick their opinions but take those into account as conclusions and analysis results. With the feedback from supervisors, I learned how to critically review the information by carefully evaluating the information with my understanding and knowledge. It's painful to leave out useless information that I have spent lots of time to collect, but finally it's crucial to get critical statements.

Strategy design, always listing evidence

Exploring how to do strategy design is the most challenging part of this project because lots of evidence and academical support are essential to develop a strategy and it is so abstract to have "value" as the core of this project. After several times of iterating the report, I finally learnt how to list evidence for my statements.

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