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MULTI-STAKEHOLDER ENGAGEMENT FOR SUSTAINABLE DEVELOPMENT – SYNERGIES BETWEEN APPRECIATIVE INQUIRY AND THE NATURAL STEP FRAMEWORK

This study explores the complementarities of Appreciative Inquiry, a method to promote change in complex systems, and The Natural Step Framework, a robust and science-based support for decision-making towards sustainable development.

It explores in which system business sustainability should be addressed and the reasons behind the hypothesis that a multi-stakeholder engagement is vital for the development of sustainable practices in any system, giving examples of actions in communities and companies. It argues why this engagement should be beyond regulations, consumer power and societal activism and step into the business' strategy itself.

A practitioner's perspective is developed in a merged methodology by applying the Appreciative Inquiry's phases (Discovery, Dream, Design, Delivery) on a definition of the system, an inquiry into their assets, and a collective definition of success by stakeholders. The Design and Delivery phases use The Natural Step Framework to define the stepping stones that are both in the right direction according to design and comply with sustainability principles.

The conclusion highlights the complementarities and advantages of using Appreciative Inquiry and The Natural Step Framework together for engaging stakeholders for sustainable development.

Keywords: Multi-stakeholder, strategy, appreciative inquiry, the natural step, sustainable development

1 Introduction

From resources diminish to population growth; it is clear that the action of society in the biosphere is unsustainable in the long term. Like in an ever-converging funnel, our actions as a society are increasingly undermining the system we live in. It is not possible to predict the exact point of no return, but every sector of society has a stake in mobilizing themselves not to hit the walls of the tunnel sometime in the future.

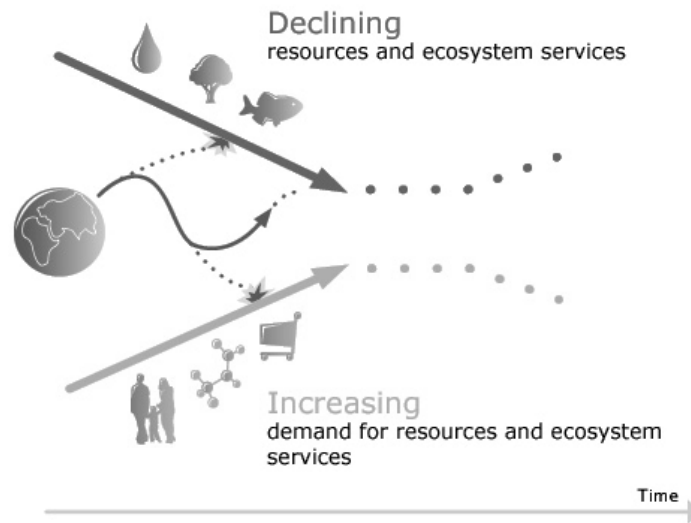


Figure 1: The metaphor of the funnel: declining resources, increasing demand¹

While all human beings are obvious stakeholders in this process, this paper focuses on how the sub-system of the private sector is dealing with sustainable development and its relationship with their immediate stakeholders.

The impact of stakeholders in businesses is beyond their influence by regulations, consumer power and societal activism. Those are the basic regulatory practices that business will be always pressured to comply with. The reality of sustainability today asks for a more protagonist approach, it asks for the co-responsibility on the topic of sustainable development.

We explore the advantages of this co-responsibility for the business case and how to plan and create business strategies taking sustainability into account and involving multiple stakeholders.

The process of engagement will follow a structure of an organizational development method called Appreciative Inquiry. Appreciative Inquiry (AI) is a strength-focused approach that enables multi-stakeholder engagement through a process of continuous participation and collective inquiry and co-construction. Different than traditional problem-solving techniques, Appreciative Inquiry builds on community assets rather than liabilities and invites for the exploration of what is possible and what gives life to a system.

A strategic framework for sustainable development called The Natural Step will support the Appreciative Inquiry method. The Natural Step Framework is a science-based, robust and systemic definition of sustainability that has been used by companies and communities alike to support systematic planning and decision-making. Based on a process of backcasting –

¹ <http://www.naturalstep.org/the-funnel>

working backwards from a defined vision of success – The Natural Step Framework guides decision-making by applying four scientific principles of sustainability derived from 20+ years of scientific work.

2 Multi-Stakeholder Approach for Complex Systems

Complex systems are usually related to the story derived from chaos theory: a butterfly flapping wings in Asia could create a tornado somewhere in the Americas. This story reflects a system in which a change of one component can modify many others due to their interconnectedness, changes that we have poor or no ability to predict or identify.

The mention of a sustainable system may have different levels of understanding. In order to consider the broader perspective and avoid creating reductionisms, a whole system approach is needed. To include the whole system means to talk about the whole human society intervening on the planet. Our society within the biosphere is the complex system in which sustainability is desired.

When businesses are planning and designing their strategies for sustainable development, it is also important to identify the sub-system of which they are part. To identify this means to understand the context and relationships in which the business lies, to identify all the roles and groups that are part of this context and relationships, the people who are for many different reasons interested and/or impacted by the activities of the business. Studies have been made to support organizations to identify the whole system and invite all stakeholders to the room (Weisbord 1994).

The combination of identifying the sub-system and acknowledging the bigger picture will bring the elements needed to a more complete approach for sustainable development. Business strategy for sustainable development requires a new model of value creation and a strategy design process that reflects this new model.

2.1 Redesign the Business Strategy

In a complex environment where changes are constant, organizations are looking at strategy with new eyes. A more fluid and yet clear structure is needed to coordinate actions and strategy, foster innovation and collective learning. For this businesses are re-learning how to design their strategy.

The new scope of strategy is about being aware of the whole system's perspective. Lazlo & Cooperrider (2008) describe a new design model for sustainable business: a conventional model of short-term shareholder value that treats the environment and social issues as "externalities" shifts to a new model of win-win approaches where growth comes from innovation by and across multiple stakeholders.

Within this model, acting to create value for either shareholders or stakeholders alone is not value creation but actually only transference of value from one group to another. Value creation happens when value is created for both groups. Lazlo & Cooperrider define this as creating sustainable value.

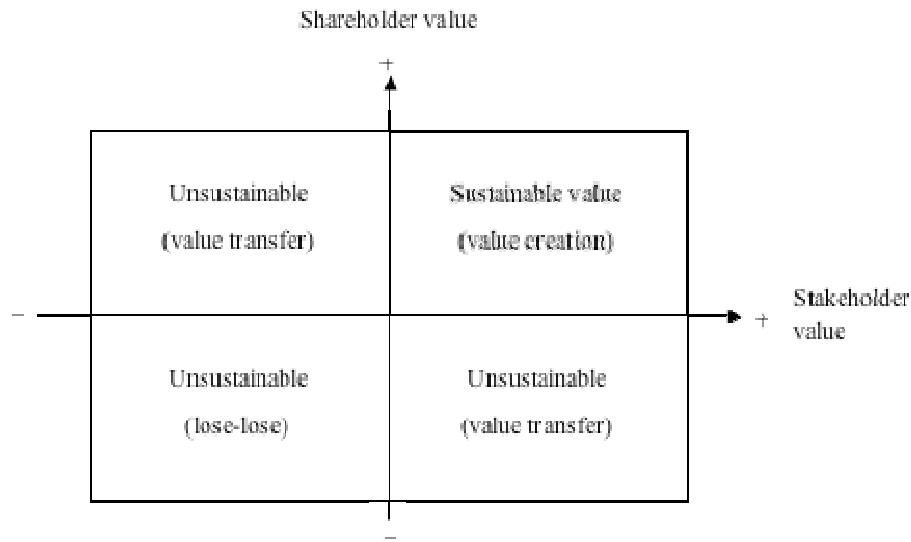


Figure 2: Creating value for both shareholders and stakeholders

2.2 Why Multi-Stakeholder?

Because of the complexities, both in sustainability and in the business world today, redesign the company's strategy is not a task for a group of experts doing consultancy. This old way of designing was built in the paradigm of experts problem-solving a case, optimizing the most efficient way of achieving a goal. This is explicit on what Mintzberg et al. (1998) calls the design school of strategy and many other schools that follow.

The new way of design works on a paradigm of learning (Checkland 1981) in which collective learning is fundamental for the evolution of the system. This approach is more aligned to a more recent school towards strategy called the learning or emergent school (Mintzberg et al. 1998).

Based on the belief that the real experts about the system are the ones who influence and are influenced by it, a process of design by a think-tank of experts changes for a collective design made by all the stakeholders of a system.

In collective design, stakeholders are not seen as externalities of the business system, but rather part of its development. Stakeholders will co-design the sustainability strategies of the company and support the track of the evaluation tools together with the development of its measures.

The new process of design for complex systems acknowledges the emergent properties of a social system and explores the collective intelligence that stakeholders can bring to the table. This new paradigm invites for a design process that:

- Is a process of collective design, where the knowledge about the system emerges during the process rather than defined by a think-tank of experts.
- Has the participation of the whole system in a multi-stakeholder interaction.
- Is built around design principles that invite for creation and prototyping.
- Is purposeful and therefore builds on intention rather than prediction.

On the process of using Appreciative Inquiry in companies, there are many case studies in which the participation of stakeholders in planning was fundamental to create value for the

company. On Roadway Express, a US transport company, it was one of the truck drivers who identified a method for saving time and petrol while on the road (Cooperrider & Whitney, 2005). This is no surprise: who better than truck drivers themselves to know about driving trucks?

At the food company Nutrimental in Brazil, the use of AI for planning with all stakeholders for 4 days brought new product ideas that increased the company's value in the market by 200% (Cooperrider & Whitney, 2005). Employees were key in identifying what makes the company alive, both as products and internal culture.

On sustainability, the Natural Step was used in companies such as IKEA, Scandic Hotels, Interface (Nattrass & Altomare, 1999), Electrolux, Nike, McDonald's, among others. Used as a framework, the input of how to move the company to a more sustainable product or process was always made in collaboration between an internal team and external sustainability consultants.

3 Appreciative Inquiry

Appreciative Inquiry works on the assumption that every organization has something that works well. The process of AI invites the system to discover what brings life to it, what supports their functioning at its best. The energy and intention is focused on allowing the "positive core" to emerge, the inspiring stories, values and moments where the organization was working at its full potential.

The positive core serves as an initial point to allow innovation to occur and change to happen. Based on the assumption that the organization grows in the direction it studies, AI explores the life-giving aspects of the organization. Cooperrider, Whitney & Stravos (2008) share the propositions underlining the practice of AI:

1. "Inquiry into 'the art of possible' in organizational life should begin with appreciation.
2. Inquiry into what is possible should yield information that is applicable.
3. Inquiry into what is possible should be provocative.
4. Inquiry into the human potential of organizational life should be collaborative."

Appreciative Inquiry also uses a different approach to strategy. Barrett et al. (2005) explore the importance of visioning beyond simply setting a goal and of strategic learning integral to planning. Appreciative Inquiry offers the possibility to acknowledge the importance of both creating a vision and the social learning process that allows the vision to be perceived as collective and instigate collective engagement.

The process runs in four D stages (exploring the questions): Discovery (What is?), Dream (What might be?), Design (How can it be?) and Destiny (What will be?).

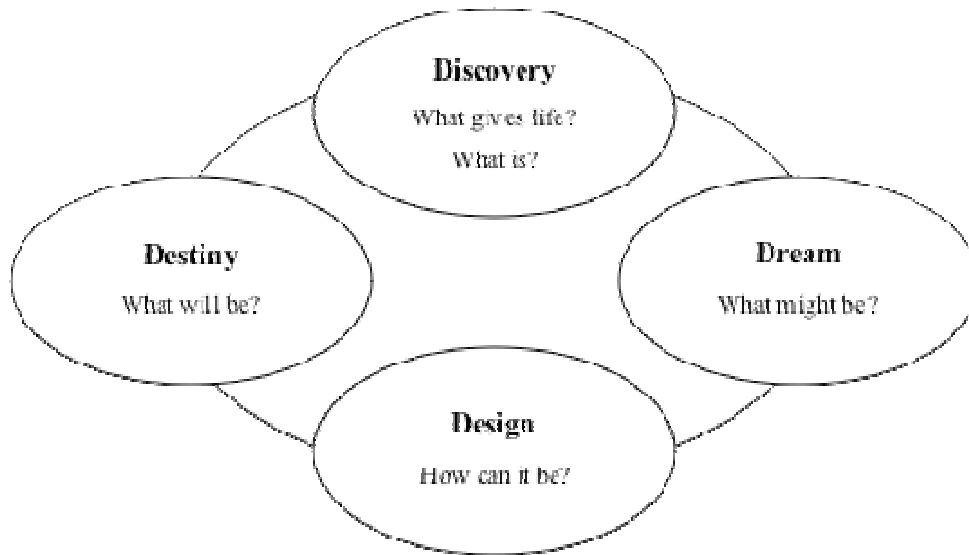


Figure 3: 4 D cycle of Appreciative Inquiry

The stages of Appreciative Inquiry stand for:

Discovery: What gives life to the organization? By a process of dialogue and guided interviews, the organization shares discoveries and possibilities of what makes them thrive, what is at the core of their practice. Every interview question, focusing on the individual or the collective, carries a positive focus, aiming to extract collective appreciation of what is in the organization.

Dream: What might this organization be? When the best of what is has been identified, the organization is invited to envision their preferred state on the future, a state that holds the characteristics that make them prosper and also allows common themes to emerge, a collective perception of the ideal organization in the future.

Design: How can this be? The organization creates the structure and processes that bring the vision to the present, to become everyday reality. This is done by setting up design statements that can trigger actions towards the desired future state by stepping into the present leverage points.

Destiny: What will this organization be? Here the organization steps into the creation of such processes and structures, acting on what was designed. Action groups now carry a shared perception of the strengths and vision of the organization and are looking at design statements that require innovation, creativity and learning to be implemented.

Planning using Appreciative Inquiry allows for multi-stakeholder participation at every stage. Appreciative Inquiry has also been used to define sustainability strategies with multiple stakeholders: Store, a storage company in Brazil used Appreciative Inquiry to convey all employees, direct clients, suppliers and the community in the same room to define the sustainability values of the company under the theme “Building together a Sustainable Future”. Fairmount Minerals, a company providing industrial sand in the US, also used Appreciative Inquiry to define its sustainability strategy (Cooperrider, Whitney & Stravos 2008).

3.1 Backcasting in Appreciative Inquiry

Backcasting, as opposed to forecasting methods of predicting the future, is about working backwards: setting the desired future state and working to define which steps are needed to attain it. The main difference between the two is that the first focuses on designing how desirable futures can be attained and the latter works on figuring out futures that are likely to happen (Robinson 1990).

The process of backcasting holds many similarities with the Appreciative Inquiry and the Design approach. According to Dreborg (1996), backcasting works in a context of discovery rather than a context of justification and it carries the principle of purposefulness rather than simple causality.

Backcast from a collective vision of the future is a natural action on Appreciative Inquiry interventions. The Dream phase relates to defining a state or scenario of the future and then the Design phase produces the steps to achieve this desired state.

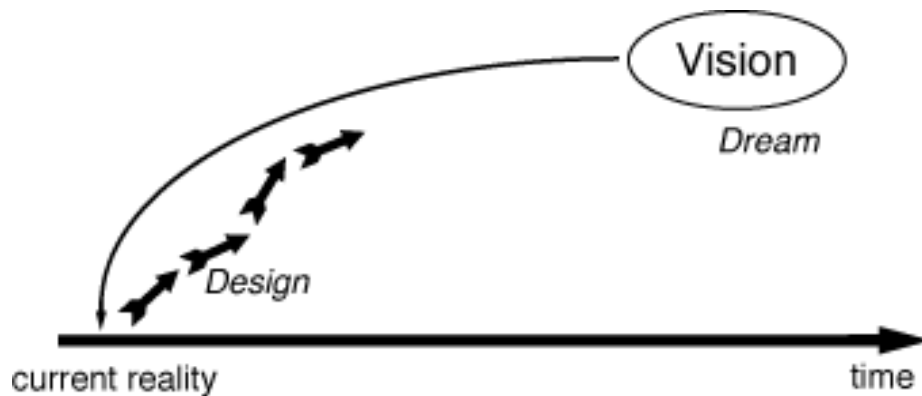


Figure 4: Backcasting from a vision of the future

The vision described by the Dream phase in Appreciative Inquiry provides a focal point and a direction to the organization. The vision is an expression of the future happening right now based on shared desires, abilities and sustained by the identified stories of strengths and achievements of the organization (Cooperrider, Whitney & Stravos, 2008).

At the Design phase, the basic infrastructure to make the dream a reality comes as design statements to cover the key elements that are necessary to support the transition. The statements and propositions can be guided by design principles and will serve as the basis for creating steps of implementation.

3.2 Design within the Biosphere – Creativity within Constraints

Cooperrider, Whitney & Stravos (2008) explore social architecture as part of Design in Appreciative Inquiry. At this phase, key necessary elements need to be identified to make the dream a reality. If compared to building architecture, it is about understanding the key elements of a building and, within the constraints of having them, allowing creativity for details.

Beyond social architecture, in order for an organization to create sustainable value, it is important to look at the key elements that arise when designing within the larger system we

are part of. The broader complex system in question, in which organizations have the ability to design and create value, is human society within the biosphere.

In natural sciences, the biosphere is known to have laws of nature as constraints, such as the laws of thermodynamics. These laws are models that predict the future of thermodynamic behavior and can be considered the boundary conditions of how matter and energy behave within the biosphere.

If not contradicting any law, i.e. within those boundaries, space is open to any development and creation. When visualizing the specific characteristics of a product of process design, it is important to acknowledge these boundaries to be able to create within them.

Acknowledge constraints does not mean a creation of a platform to generate ideas or solutions from them (Holmberg and Robèrt, 2000), and it is not a substitute of the design principles, but rather offers a complementary support both for generating new ideas and for moving them towards implementation.

Constraints can also be a solid feedback after the first prototype is generated, enhancing creativity while designing. At an engineering university in Sweden, researchers and designers are using the process of rapid prototyping through computer technology together with natural boundary conditions. This allows them to analyze the value of the product throughout its whole life cycle and the long-term relationship with nature and society.

Scientific studies such as Holmberg & Robèrt (2000) and Ny et al. (2006) have been made to define the natural principles of sustainability. The process of backcasting using basic principles allow creativity on the course of the development of your strategy and actions towards your goal because you have general rules to guide you to the right direction instead of a solidified detailed vision of the future (Holmberg and Robèrt 2000). This approach is known and applied by the name of The Natural Step Framework.

4 The Natural Step Framework

Based on study of the dynamic interrelationships between society and the biosphere, and an understanding of science; including thermodynamics and conservation laws, biogeochemical cycles, basic ecology, the primary production of photosynthesis; Dr. Karl-Henrik Robèrt initiated a process of collective scientific inquiry into the root causes of unsustainability. The following sustainability principles are a result of that work, and have been tested and refined over a period of approximately 20 years:

In a sustainable society, nature is not subject to systematically increasing...

- I. ...concentrations of substances extracted from the Earth's crust,
- II. ... concentrations of substances produced by society,
- III. ... degradation by physical means.

Social sustainability is addressed by the fourth sustainability principle:

In a sustainable society...

- IV. ... people are not subject to conditions that systematically undermine their capacity to meet their needs.

(Ny et al. 2006)

The natural and social principles proposed by The Natural Step were defined to be supportive for decision-making and have been created to meet the following criteria as

closely as possible: concrete, science-based, non-overlapping, general, necessary and sufficient (Robèrt et al. 2004). Those criteria allow the decision-maker to define the impact of the action against the principles in a way that all aspects of the system are covered.

The Natural Step uses the natural and social principles to frame the process of backcasting. The principles are used as boundary conditions and guide design and decision-making.

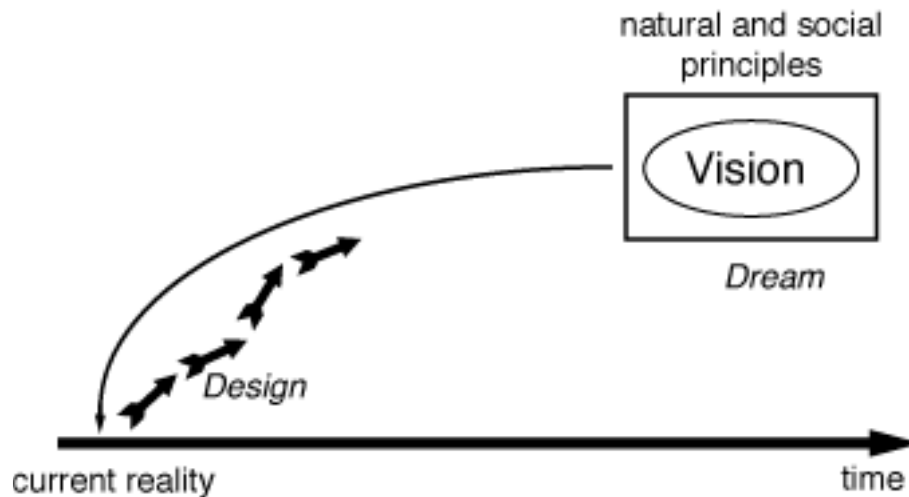


Figure 5: Backcasting using natural and social principles as boundary conditions

5 Select Design Principles in Appreciative Inquiry

Design principles are key elements that serve as a guide to design statements. The Design phase defines the structure to allow the vision to become a reality (Cooperrider, Whitney & Stravos, 2008). Specific or generic models can be used to support the definition of design principles.

One example of design principles can be drawn from the three tenets of Cradle-to-Cradle (McDonough and Braungart, 2002): (1) waste equals food; (2) use current solar income; and (3) celebrate diversity, serve as generic guides to design and invite for biomimicry such as in McDonough's famous design statement: "a building like a tree, a city like a forest". Other more specific design principles emerge from action research within think-tanks, international agencies, and civil society organizations, among others.

Companies, industries and cities have been creating more specific designing principles to guide their process of design. An example of principles created for a whole industry is at the mining industry, where the International Council on Mining and Minerals (ICMM, 2008) defined 10 principles to guide their actions and measure performance. The city of Whistler, Canada, received an UN award for its sustainability plan in which 16 statements were present to guide task forces and action planning (Whistler, 2006). At Interface carpets, the company defined the 7 fronts to climb Mountain Sustainability (Interface 2008).

Interface used both Appreciative Inquiry and The Natural Step to guide its journey at different stages. Whistler was also guided by The Natural Step basic principles.

Design principles serve as good supporters to design as they act as metaphors and generic guidelines from which the designer can get inspiration for new ideas and prototypes. The strength of those principles lies on them being both broad and abstract, aiming to inspire

rather than define. A well-documented example of stakeholder engagement for sustainability out of the corporate sector happened at the city of Whistler, Canada (Whistler, 2006).

6 Decision-Making and Evaluation

When the intervention on AI moves from Design to Destiny, strategic action groups are created and the process of participatory design and collective creation will at this point serve as a guide for informed decision-making by those groups.

At the groups, actions and practical directions are proposed, and more concrete steps are planned. At this stage, attention lies on new ideas and project proposals that are connected with creating value for both shareholders and stakeholders (Lazlo & Cooperrider, 2008).

It is important to note that most of decision-making is not participatory in the same direct way of collective design. The fluidity of structure and adaptability happens when coordinated actions following core principles are in place, not necessarily actions agreed by every person. This enhances the importance of both clear co-designed principles and the creation of what Frank Barrett calls appreciative learning cultures (Barrett, 1995).

At this stage both the design statements created and the natural and social principles of sustainability are taken into account to assure actions and projects are aimed to the right direction. The Natural Step Framework uses three questions as strategic guidelines:

1. Is the action taking us to the right direction?
 - a. Is it in accordance with the design statements?
 - b. Is it complying with the sustainability principles?
2. Is this a flexible platform?
 - a. Is the action or project a flexible platform for future developments?
3. Is it a good return on investment?
 - a. Does it return value for both stakeholders and shareholders?

The strategic questions above are used to frame every decision taken by action or representative groups in the organization. They are guidelines that assure that the design principles defined by stakeholders and the natural and social principles of sustainability are taken into account.

The use of principles guiding decision-making also supports the creation of a systematic evaluation process. As an example of such a process, used for product development, The Natural Step developed a life cycle analysis tool to be used to assess product sustainability². This tool consists in a graphic analysis giving an overview of the whole system using the sustainability principles throughout the whole life cycle of the product. This overview can be supportive of the design phase by looking at the indicators generated by the prototype.

The tool also invites for a process of multi-stakeholder participation by addressing the product life cycle and all the stakeholders engaged at each level. A questionnaire of around 140 guiding questions was generated around the areas below.

² <http://www.naturalstep.org/en/sustainability-life-cycle-assessment-slca>

Life cycle stage	Lifecycle questions	Important stakeholders
1. Design and Development	<ul style="list-style-type: none"> • Sustainability competence of design team • Integration of sustainability in decision-making • Integration of sustainability within design development processes • Improvements to design and development processes. 	
2. Materials (raw and fabricated materials)	<ul style="list-style-type: none"> • Type of raw and fabricated materials • Implications for human needs • Energy use suppliers • Demands and collaboration with suppliers 	
3. Production	<ul style="list-style-type: none"> • Type of materials for processing • Implications for human needs • Energy use customer • Collaboration with supply factories to improve their product and processes 	
4. Packaging, distribution and retail	<ul style="list-style-type: none"> • Packaging material • Implications for human needs • Transportation • Demands on suppliers, strategy/actions taken for efficiency/substitution • Cooperation with retailers for promoting sustainable consumption 	
5. Usage & End of Life	<ul style="list-style-type: none"> • Type of materials for use • Waste, Re-use and recycling • Implications for human needs • Energy use • Strategy/actions to improve use & end of life. 	

Figure 6: Areas of the SLCA questionnaire. Tool developed by The Natural Step

7 Conclusion

Sustainability issues and current complex business environment require that companies consider the relationship with stakeholders at the strategic level. This relationship means a process of engagement in strategy design in order to create value for shareholders and stakeholders alike. Appreciative Inquiry has shown the characteristics of an organizational development intervention that is based on action research and participation. For sustainable development, the support of the framework developed by The Natural Step shows its complementarities.

The Natural Step complements the intervention with Appreciative Inquiry by ensuring that the broad natural and social issues are taken into account while designing, and that a robust systematic guide can be used while action planning. The use of Appreciative Inquiry complements The Natural Step's process of backcasting by its strength-based approach, where the dream and design phases are sustained by identified powerful stories and achievements from the organization and its stakeholders.

The systems perspective taken by both approaches assure that stakeholders collective define the design principles, key elements for innovation and engaged action, and look at the broader social and natural principles that represent the boundaries of a sustainable future. Multi-stakeholder engagement for sustainable development works at its best when the combination of both principles and the social learning process around planning itself happens. The use of the integral approach Appreciative Inquiry – The Natural Step can deliver that.

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