Criteria to Organise a Transition Lab to Stimulate the Transition Towards a Circular Economy

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ARTICLE

ABSTRACT

Globally the dominant economy is linear, which is connected to most environmental problems. A sustainable alternative is a circular economy. To move towards a circular economy, there needs to be focus on the economic, environmental, and social dimension. However, the social dimension is often not included in this transition. A transition lab can fulfil this gap by including the social dimension in the transition towards a circular economy. As a transition lab plays a significant role in this, insight should be created into which criteria are important for the organisation of this lab. To gain insights into these criteria, data was gathered through a qualitative research design that included interviews, observations, and desk research. From the gathered data derived thirteen criteria that should be looked at when organising a transition lab. However, three criteria were mentioned in at least two out of the three categories of Stufflebeam's evaluation theory and should be prioritised when organising a transition lab. The first criterion is expectation management, for which transparency about the main theories of the transition lab is needed. The second criterion is the selection process of participants because this will build the foundation of the lab. The third criterion is monitoring the transition lab throughout the whole process by an external person, which means this person does not have an interest in the outcomes of the transition lab.

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INTRODUCTION

Globally, there is a linear economy (LE), which negatively affects the environment (Stahel 2016). The waste that is created in a LE is connected to environmental problems, such as biodiversity loss, global warming, air pollution, and plastic soup (Circle Economy 2022). A more sustainable alternative is a circular economy (CE). In a CE, planning, resourcing, procurement, production, and reprocessing are designed and managed to maximise both the process and output. This helps to maximise ecosystem functioning and human well-being (Murray, Skene & Haynes 2015). The transition towards a CE is often focused on technological and economic factors and does not include social factors. However, technological innovations or system optimalisations alone is not enough (Von Wirth, Fuenfschilling & Coenen 2018). In addition, Velenturf and Purnell (2021) mention that it is important to match business models, policies, and technologies to the local context for a successful implementation of a CE. Therefore, transition labs (TL) could play a crucial role in the transition towards a CE because a TL fosters systematic change by the engagement of citizens and civil servants of a local community around a complex issue. As TL could stimulate the transition towards a CE, this research aimed to identify which criteria are needed for a successful implementation of a TL by evaluating the TL organised within the municipality of Westerveld of the Drenthe province, The Netherlands.

BACKGROUND

CIRCULAR ECONOMY

Currently the main economy is linear. In this form of economy resources are extracted, manufactured into products, used by consumers, and then incinerated (Sillanpää & Ncibi 2019). The waste that is created in a LE creates environmental problems (Circle Economy 2022). The sustainable alternative for a LE is a CE. However, there is not a commonly accepted definition for a CE (Kirchherr, Reike & Hekkert 2017). A commonly used description of a CE is by Velenturf and Purnbell (2021). They describe a CE as an economy where resource use is improved by minimising extractions of natural resources, maximising waste prevention and optimising economic values throughout the lifecycle of products.

Nevertheless, not everyone sees a CE as a potential solution to prevent climate change. Velenturf and Purnell (2021) argued that there will always be leakages of resources, even when all the material will be kept within the economy. Another critique is that a CE is positioned as an alternative to a linear economy that promotes continuous economic growth. CE thus underplays the importance of changing consumption patterns. For sustainability, the average consumption per person must be reduced, which is not addressed in a CE.

Despite these critiques it is important to go from a LE to a CE because this form of economy creates conditions for sustainable development, which means meeting the needs of a growing population without relying on finite resources (Circle Economy 2022). In addition, according to Velenturf and Purnell (2021), a CE contributes directly to SDG 12: Responsible Consumption and Wellbeing and SDG 13: Climate Action. In total, a CE contributes indirectly to sixteen out of the seventeen SDGs, which is illustrated in Figure 1. The goals that are strongly affected by a CE are coloured red and the goals that are partially affected are coloured orange (Velenturf & Purnell 2021).

Figure 1 Contribution of a CE to the achievement of the SDGs.

Source: Velenturf & Purnell (2021: 1444).

However, until now, the predominant focus of a CE is mostly within the environmental and economical dimension. According to Mies and Gold (2021), a truly sustainable economic system could only be achieved with the integration of the social dimension. Sustainability consists namely of three pillars, the social, environmental, and economic pillars. Murray et al. (2015) stated that only if societal needs are included in the basic formulation of the CE, a CE could build on all three pillars. Mies and Gold (2021) agree with this, and they argued that the absence of the social dimension within the CE is caused by the lack of conceptual clarity on the term CE. The integration of the social dimension will only increase if the dimension will be included in the definition. In this research, a definition of Murray et al. (2015) will be used:

> The Circular Economy is an economic model wherein planning, resourcing, procurement, production and reprocessing are designed and managed, as both process and output, to maximize ecosystem functioning and human well-being (Murray et al. 2015: 377)

Kate Raworth explains this idea with a model called Doughnut Economics, shown in Figure 2. The doughnut consists of two rings. The social ring ensures that no one is falling short on life's essentials and the ecological ring ensures that humanity does not overshoot planetary boundaries. The doughnut represents the ecological safe and just space in which humanity could thrive (Raworth 2017).

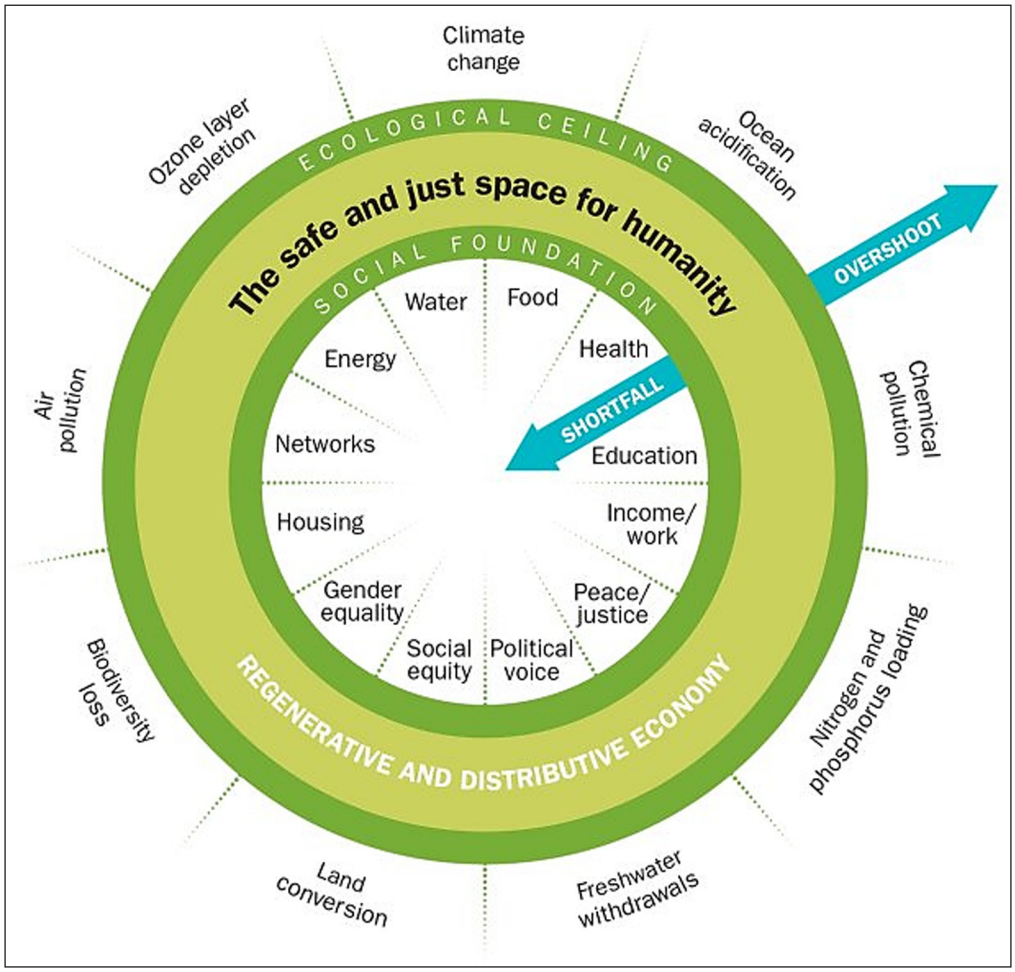


Figure 2 Explanation Doughnut Economy.

Source: Raworth (2017: 38).

TRANSITION LABS TO STIMULATE A CIRCULAR ECONOMY

Jones and Comfort (2017) stated that even though the transition towards a CE creates opportunities, it also comes with major challenges for businesses, governments, and consumers. Transitioning to a CE is a difficult task which generates a change in how production and consumption are organised within the global economy. It requires a new way of looking at the relationships between markets, customers, and natural resources.

Velenturf and Purnell (2021) developed nine principles that are important to generate the transition towards a CE. The following nine principles show that to move towards a CE, technological, economic, and social factors play an important role:

1. A CE requires a beneficial reciprocal flow of resources between nature and society.
2. The resource use should be reduced and decoupled, which means downscaling the production in many sectors and reducing the consumption in high consumption countries.
3. The design of products needs to change by combining design efforts at the levels of material selection and product design. The materials and components of the products must be kept at their highest value all the time.
4. Circular business models need to be used to create multi-dimensional value.
5. Consumption patterns need to change.
6. Citizens should be stimulated to participate in the transition.
7. Create coordinated participatory and multi-level change because sustainable development requires participatory whole-system approaches.
8. Create diversity to develop a great number of new circular initiatives.
9. The strategies to move towards a CE needs regular evaluation because the implementation of a CE is a process that creates a high level of uncertainty. Also, it needs continuous adaptation to evolving environmental, social, technical, and economic conditions.

The transition towards a CE is often focused on technological and economic factors and does not include social factors. However, to successfully move towards a CE, the perspectives of different stakeholders should be brought together. Producers as well as consumers (citizens) need to be involved but research on participation processes with the involvement of citizens is still rare. A CE must empower citizens to coproduce circular solutions inclusively and enable change in social values (Velenturf & Purnell 2021). According to Witjes and Lozano (2016), a collaboration between different stakeholders increases the number of potential useful innovative circular ideas, optimises financial and human capital, and enriches creativity. These ideas could contribute to a reduction in raw material and waste generation, while still promoting sustainable business models.

To overcome this gap, in addition to scientific and technical labs, there is a pressing need for labs that are focused on social challenges (Hassan 2014). Over the years, numerous labs have been developed to address social challenges in the transition towards a CE. These labs have been given different names, such as living labs, transition labs, social labs, and innovation labs. A living lab is different from the other labs mentioned because a living lab is a place where organisations, universities, and institutions validate and test new technologies and products in a real-life environment (Zivkovic 2018). The other labs are focused on addressing complex social issues. The core characteristics of all these labs are that they bring diverse groups of stakeholders together to work in collaborative teams and they address social challenges by experimentation that is focused on the systematic nature of the problem (Zivkovic 2018).

A TL represents a particular set of governance innovations seeking to foster systemic change based on the engagement of multiple actors around a complex issue (Holmén, Williams & Holmberg 2022). The TL will advance the transition towards a CE as six out of the nine elements that Velenturf and Purnell (2021) consider important to generate the transition towards a CE that are addressed earlier in this section are touched on.

A TL is a journey into the unknown where the resulting future is different compared to what it was before (Holmén et al. 2022). According to Holmén et al. (2022), three criteria are important for a TL: framing a sustainable future on social, economic, ecological sustainability, and human needs and wellbeing; identifying gaps and challenges by analysing present systems; and identifying interventions for sustainable development.

TL OF COLLECTIVE CIRCULAR WESTERVELD

Collective Circular Westerveld (CCW) is responding to the pressing need for labs that are focused on social challenges by organising a TL, which stimulate new collaborations between companies, residents, and the municipality (CCW n.d.). CCW is part of the Region Deal Region

Zwolle (RGRZ), which aims to strengthen the region as a social, circular, innovative and climate-proof growth region (Regio Zwolle n.d.). RDRZ consist of 41 parties from four provinces including Westerveld. CCW is a partnership consisting of NICE, Municipality of Westerveld, Versnellingshoeve 't Kiemt, Area cooperation Southwest-Drenthe, exercise coach Westerveld, and foundation CERPO. The goal of the TL organised by CCW is to stimulate circular production and consumption within Westerveld (NICE n.d.).

During the TL, entrepreneurs, civil servants and inhabitants of the municipality of Westerveld work together to concretise their circular ideas. As the term circular initiative is broad, CCW delineated the TL to focus on three main themes regarding circular initiatives: food, construction, and rest flows. Therefore, selection of circular initiatives is limited to local food production, reconstructions focused on reusing material waste out of the municipality or building with local products, and initiatives that use residual waste flows within the municipality. (NICE n.d.). During the TL the participants have the space to experiment with the idea and receive education, training, and coaching to be able to develop their circular idea into a circular project initiative which contributes to the circular production and consumption of Westerveld (NICE n.d.).

The TL of CCW is based on the theory of Strategic Niche Management (SNM), which is visualised in Figure 3. This figure shows that transitions are created by dynamic processes of change within multiple levels of society. The TL of CCW operates on the niche level. Niches are a place where innovation could develop without being exposed to the selection pressures of the regime but could influence both the regime and the landscape (Sengers, Wieczorek & Raven 2019). That is, CCW uses a bottom-up approach to contribute to a CE.

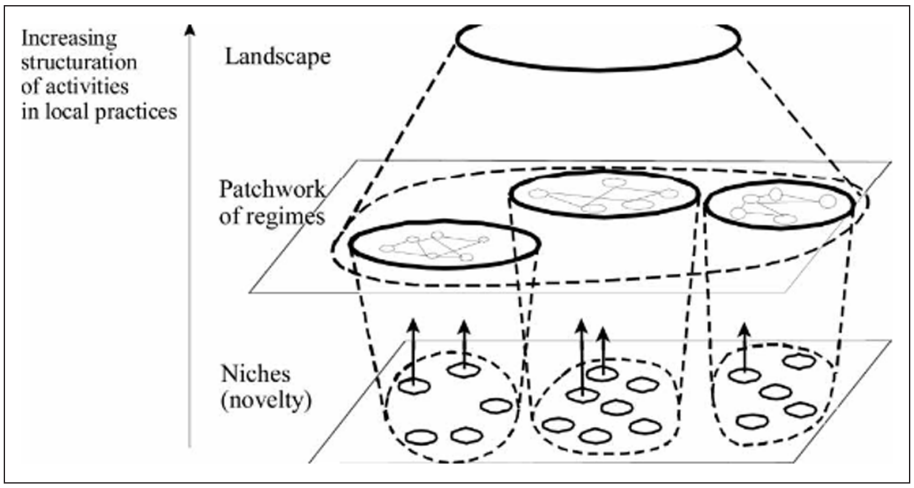


Figure 3 Explanation Strategic Niche Management.

Source: Schot & Geels (2008: 546).

EVALUATION MODELS

One of the principles mentioned by Velenturf & Purnell (2021) state that the movement towards a CE is a process of continuous improvement and adapting to the environmental, social, technical, and economic conditions under great uncertainty. Therefore, the implementation of proposed circular economy practices needs continuously evaluation and monitoring. Consequently, it is important to evaluate and monitor the TL organised by CCW. A programme evaluation is done to discover the implementation of a programme carefully by knowing the effectiveness of each component (Suparman & Sangadji 2019).

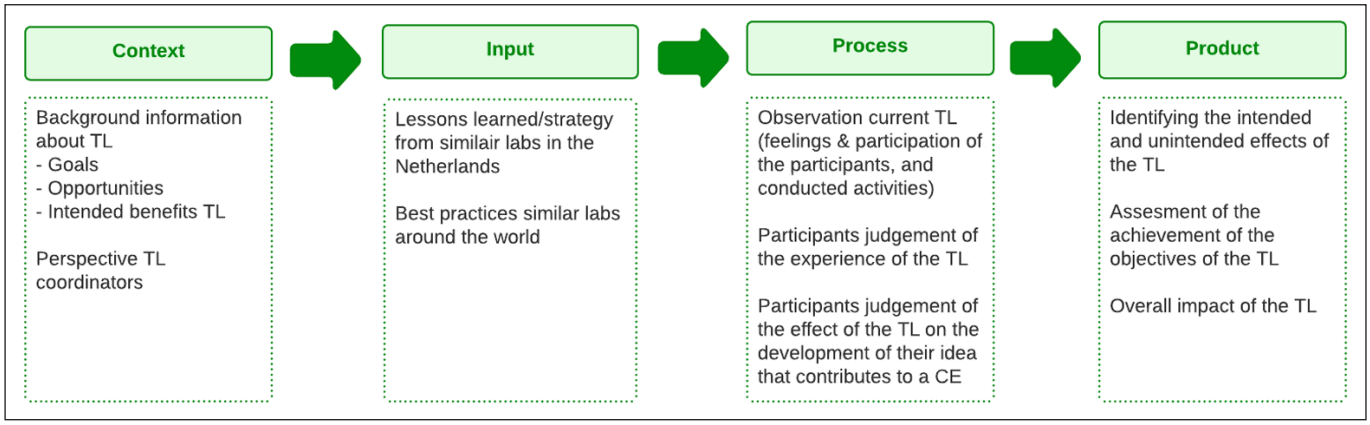
According to Holmén et al. (2022), a three-part evaluation framework is needed for the evaluation of a TL. The three-part evaluation approach allows to organise the elements for a sustainability impact in a coherent way including different levels of scales in system transitions. It also causes a clear distinction between short-term and long-term effects, which is important as changes in sustainable systems often take place over a longer time period. The first category of the three-part evaluation is that the TL should be evaluated on the process of the lab, which includes the methodologies used, to see if the lab is reaching its full potential. Secondly, the societal effect should be evaluated, which means the short- and medium-term outcomes of the TL, including the developments of networks, relationships and institutional changes. Lastly, the long-term impact of the TL should be reflected, including changes in socio-technical

systems and governance. This research is focused on the process evaluation of the TL as the TL was still being executed and therefore, the short, medium, and long-term impact could not be indicated yet.

THEORETICAL FRAMEWORK

To create a theoretical framework for this research, Stufflebeam's evaluation theory was used. According to Stufflebeam, programme evaluation should be focused on the improvement of a programme, instead of providing information about a programme (Alhajia et al. 2020). Stufflebeam's evaluation theory is typically used for the evaluation of new programmes (Frye & Hemmer 2012). The theory was developed in the late 1960s to help evaluate programmes in the educational field. Nowadays, his theory is widely used across different fields and disciplines (Al-Shanawani 2019). Stufflebeam's theory states that the evaluation of a programme consists of four main components: context evaluation, input evaluation, process evaluation, product evaluation (Suparman & Sangadji 2019). Figure 4 provides a systematic overview of the four main components concerning the evaluation of a TL.

Figure 4 Evaluation framework TL.



The first component, context evaluation, encompasses the study of the programme goals and priorities by assessing needs, problems, and opportunities relevant to the programme. Context evaluation will help gain a broad understanding of the programme and the background of the programme (Frye & Hemmer 2012).

The second component, input evaluation, refers to design improvement efforts, detailed action plans, record alternative plans that were considered, and record the basis for choosing one approach over others. For this step, literature of similar programmes should be reviewed, and the programme strategy should be compared with strategies of similar programmes (Al-Shanawani 2019).

The third component, process evaluation, means that evaluators need to predict, assess, and observe a defect in its plan or implementation and then give feedback on improvements (Al-Shanawani 2019). The lessons learned about the implementation of the programme are often useful for the implementation of other programmes as well (Frye & Hemmer 2012).

The fourth component, product evaluation, includes the collection and analysis of the provisions related to the success of the programme, the intended and united effects, and the positive and negative outcomes (Al-Shanawani 2019). Nevertheless, as the TL is still being executed, the impact of the TL cannot be identified yet and therefore the component product level was not used in this research.

Stufflebeam (2007) also developed a checklist based on his evaluation theory to guide the evaluation of programmes that particularly are aiming for long-term sustainable improvements. In general, his four parts of evaluation ask: what needs to be done; how should it be done; is it being done; and did it succeed? In addition, he included a checklist with important components of an evaluation report (see Appendix A – Stufflebeam's evaluation checklist). Stufflebeam stated that the checklist should be used as guidance throughout the evaluation process and could be adapted to individual particular needs.

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METHODOLOGY

This study was conducted to evaluate the TL organised within the municipality of Westerveld to get insights into which criteria are needed for a successful implementation of a TL to stimulate the transition towards a CE (see Appendix B Research Questions & Objective). A successful implementation is achieved when the participants of the TL find the lab useful for the development of their innovative circular idea and would participate again.

DATA COLLECTION

A variety of qualitative research techniques were used: qualitative desk research, semi-structured interviews, and participant observation. Stufflebeam (2007) states that observations of the current TL are necessary to gain an in-depth evaluation of the process of the TL and that it is important to work closely with the participants of the TL to gain an in-depth evaluation of the process level. In addition, these research methods have been chosen because this research will be conducted in the municipality of Westerveld, which is small scale and context specific.

Desk research was conducted to gather secondary sources, which was used throughout the whole research process. The usage of desk research gave an orientation and theoretical support when formulating the research report. In addition, due to the lack of respondents of coordinators of other labs, desk research on academic and non-academic sources was used to find best practices and success factors for the organisation of similar labs, which gave input for the component input evaluation of Stufflebeam's evaluation framework. For this, the document *Social Labs: A Shared Participatory Methodology for Fieldwork* by Shanley, Gianni and Meacham (2020) was used to gain knowledge about important factors for the design and implementation of Social Labs (SL). Furthermore, the document *Urban transition labs: Co-creating transformative action for sustainable cities* by Nevens, Frantzeskaki, Gorissen and Loorbach (2013) and the transition lab of the SARAS institute by Bardecio (2022) were used to gain knowledge about important factors for the design and implementation of TLs.

A total of nine semi-structured interviews were conducted with participants of the TL of CCW, coordinators of the TL of CCW and a coordinator of a SL. During the interviews, there was the liberty for each interview to take its own course, which allowed the researcher to go more in depth. However, the semi-structured questions made sure to stay on the research topic. All the interviews were recorded. Before the interviews, a standardised protocol per group of respondents was created, which ensured the desired coverage of the areas of inquiry and comparability of the various respondent's information (see Appendix C – Interview protocols). Before each interview, a research consent form was sent to the respondents to ask for permission to record the interview and to inform the respondent how the data will be used.

Participant observation was used to observe three lab sessions organised by CCW. The observations were unstructured, meaning no compiled list of certain behaviours was created beforehand (Verhoeven 2016: 137). A non-concealed observation technique was used, which means that the respondents were aware that they were being observed (Verhoeven 2016: 137). In this way, all the respondents gave informed consent to be part of this research. During the observational participations, analytical field notes were taken for which a standardised protocol was used. Lastly, short interviews were conducted during the two lab sessions with all the participants to test the observations with the participants. For this, a standardised protocol was used (see Appendix D – Observation protocol & Short interviews).

SAMPLING

To gather respondents for the interviews, judgement sampling was used where respondents were chosen based on specific characteristics. This research involves three groups of respondents: participants from the transition lab organised by CCW, which provided information for Stufflebeam's process level; coordinators of the TL organised by CCW, which provided information for context level; Coordinators of similar labs, which gave information about the input evaluation. An overview of the study sample of this research can be found in Table 1. All the respondents of this research are anonymised, which minimised their need for socially acceptable answers.

RESPONDENTS SEMI-STRUCTURED INTERVIEWS	OBSERVATION TL	RESPONDENTS SHORT INTERVIEWS DURING OBSERVATION
Participants TL CCW		
2 Entrepreneurs	3 Entrepreneurs	3 Entrepreneurs
2 Civil servants of the municipality Westerveld	2 Civil servants	2 Civil servants of the municipality Westerveld
1 Citizen of the municipality Westerveld	2 Inhabitants of the municipality Westerveld	2 Inhabitants municipality of Westerveld
Coordinators TL CCW		
3 Coordinators TL CCW	2 Coordinators TL CCW	
Coordinators similar labs		
1 Coordinator Social Lab		

Table 1 Study sample per collection method.

DATA ANALYSIS

The analysis process started by transcribing the interviews. To structure the observations and field notes, description notes were taken the day after the observations took place, to write in-depth all the perceived observations. The structure of the description notes is based on the observation protocol. (See Appendix D – Observation Protocol & Short Interviews.) For the desk research, the relevant articles and websites were saved. During the desk research, the useful parts of the relevant articles were copied into separate Word files.

After the data were organised, a combination of a deductive and inductive thematic analysis method was used. To that end, the researcher started to get familiar with the data by reading the observation description notes, interview transcripts and articles that were relevant for this research. Afterwards, per interview group and observation method, a framework consisting of synthesising concepts was created based on the results (see Appendix E – Synthesising Concepts). This framework served as a sorting system with compartments for the main categories. In this way, it was possible to draw connections between the outcomes of the research. Afterwards, the framework of synthesising concepts was checked by Stufflebeam's evaluation checklist to see if the categories were in line with Stufflebeam's evaluation theory (see Appendix A – Stufflebeam's Evaluation Checklist). Next, the data was coded in Excel. In total there were three rounds of coding per interview, observation, and article. In the first round, all interviews, observations, and articles were coded based on the synthesising concepts in a separate Excel sheet. In the second round, all outcomes of the first round were combined and grouped according to the code. In the third round, all data were categorised in a Word document according to Stufflebeam's categories.

RESULTS

This chapter will discuss the results of the observations, interviews, and desk research. This section is structured based on the three main categories of Stufflebeam's evaluation framework: context, input, and process.

CONTEXT LEVEL OF TL ORGANISED BY CCW

The goal of the TL organised by CCW is to develop a sustainable society by stimulating circular production and consumption within Westerveld. Within the TL, a group of diverse people including citizens are stimulated to develop a great number of new circular ideas. The goal of the TL is to develop the initial idea of the participants into a feasible project initiative within six months. Based on the first component of Stufflebeam's evaluation theory, context evaluation encompasses the study of the goals and priorities by assessing needs, problems, and opportunities relevant to the TL (Frye & Hemmer 2012). The data collection phase identifies five important criteria for organising a TL based on the three interviews with the coordinators.

1. Time investment in the forming of the vision, mission, and ambition

It was emphasised during the interviews that before the start of a TL it is crucial that the coordinators invest time to create the vision, mission, and ambition of a TL. This causes all coordinators to know what to expect. According to coordinator 1: 'We have really taken our time to develop it [the vision], so that we really understand each other and that the mutual expectations are clear at the start, but we also adapted them on the way.'

Respondent 2 confirmed that the vision should be adapted along the way. 'The biweekly consultations with the coordinators is one of the main success factors of this transition lab.' Also, respondent 3 confirmed that the coordinators of a TL should sit together to discuss the progress of the TL to see whether it is in line with its vision, mission, and ambition.

2. Expectation management

There should be clearly communicated what participants can expect when they decide to participate and what the coordinators expect of the participants. Coordinator 3 explained, 'The biggest obstacle we noticed at the beginning has becomes reality, which is the expectation management of the participants in advance.' All three coordinators emphasised during the interviews that things went wrong during the recruiting phase, which created different expectations among the participants. It was also not communicated clearly how much time the participants needed to invest in the TL, which affected their commitment and motivation. Lastly, it was not clear to the participants that when they choose to participate, they entered an agreement and therefore were expected to attend the lab sessions. This created an atmosphere where participants could easily cancel the session, which affected the programme of the TL.

3. The selection processes

The selection procedure is crucial for a successful TL. For this TL, the selection process happened last minute, and the participants of the TL were only selected based on their circular idea. However, two out of the three coordinators interviewed mentioned that it is also important to select participants on competencies as well. It is important to note here that the two coordinators who mentioned this are also the facilitators of the TL and need to interact with the participants. However, the other coordinator, who did not interact with the participants of TL, does not agree as the coordinator believes that participants could develop these competencies during the TL.

The three coordinators are on one line of which competencies the participants should be selected on or develop during the TL: open-minded, flexibility, positivity, curiosity, open attitude, and ability to collaborate. While the coordinators did not have a say in the selection procedure, the two coordinators who are also facilitators think that it is important that they are included. 'We had no influence in the selection process whatsoever, but we are the ones who have to deal with the participants.'

All three coordinators mentioned that a good balance between civil servants, inhabitants, and entrepreneurs was created during the selection process. Furthermore, the selection procedure of the facilitators of the lab session was successful and the collaboration is going well. From the interviews it became clear that it is important to select facilitators with the following skills: leadership, coaching, patience, experience with entrepreneurs, ability to build connections, and being able to keep control. They also need to have knowledge about CE.

4. A flexible programme

According to the three coordinators, another criterion that contributed to the success of a TL is having a flexible programme. The coordinators said that a flexible programme means that the TL has an outline but that nothing is set in stone. However, this does not mean the programme could be turned upside down. It rather means that there is space within the programme to adjust to changing circumstances and the structure of the programme could be adapted to the participants' needs. The transition lab of CCW did this by creating a fixed set of topics that should be covered during the TL: personal development, individual guidance, and theory and models about CE and entrepreneurship. The coordinators also addressed that they selected models and theories which could be explained in clear and easy terms. In this way, despite the different levels of knowledge of participants on entrepreneurship and CE, everyone should be able to follow the lab sessions.

However, the flexibility of the programme should have its limits in terms of time. As explained by coordinator 1:

> Six months is a period, call it an incubation period, which I know from my own experiences you really do need in order to allow a development to take root in yourself, but also to be able to build something that has substance and solidity to be able to continue.

One coordinator is even wondering if six months would be enough. However, none of the respondents could give a fixed amount of lab sessions that a TL should have. The three respondents mentioned that it is important to look at the duration of the lab and make sure to have enough time in-between the sessions to use the knowledge for the development of their circular initiative. The optimal time between the sessions is five to six weeks.

5. Evaluation and monitoring

The last important criterion mentioned by all three coordinators is that it is crucial to monitor and evaluate the TL during the execution period, which is shown in the following quote by coordinator 3:

> It is good to question the stakeholders regularly because not everyone gives their feedback if they are not asked for it. Therefore, it is important to ask stakeholders regularly, and this could happen in different forms such as interviews and surveys.

In addition, according to coordinator 1, 'Monitoring should happen on three levels: Individual level, group level, and the created impact.' The three coordinators mentioned not only reflections of participants should be included but also the reflections of stakeholders of the TL, including the coordinators, because this will provide a full overview of the TL. Another coordinator added that it is important that someone outside of the TL should be responsible for monitoring. However, this criterion was not mentioned by the other two respondents.

LESSONS LEARNED FROM THE INPUT OF SIMILAR LABS

The second component of Stufflebeam's evaluation framework is input. For this category, literature of similar labs was reviewed and one interview with a coordinator of a SL was conducted to look at best practices. Based on this, five criteria were identified that are crucial when organising a TL.

1. Selection procedure

The outcomes of the interview and the three articles of the input level stated that the selection procedure is crucial when organising a TL. According to Shanley, Gianni and Meacham (2020), finding the right participant is a key part in organising a TL. 'There is not a social lab without participants and therefore including the right individuals is key part of facilitating a social lab' (Shanley et al. 2020: 11).

The selection procedure starts by choosing the right recruitment strategy. According to Shanley et al. (2020), two main strategies could be used, which are indirect and direct recruitment. By direct strategies, the participants are directly contacted and by indirect strategies the recruitment takes place by an open invitation. The advantage of an indirect strategy is that it will create a wide range of participants; however, according to Shanley et al. (2020) the motivation could be weaker.

Shanley et al. (2020) stated that the facilitators of a TL should be included in the selection process. Before the selection process starts, facilitators must brainstorm together about what to them suitable candidates are and create a checklist, which could be used during the selection procedure. The coordinator of the SL mentioned that it is important to not only select on their idea, but also look at the person behind the idea. Furthermore, there should be looked for a diverse group of open, active, and positive participants.

According to Nevens et al. (2013), participants should be sought who can think outside the box, function in a group, and are able to work without getting directly tangible results. After the checklist is created by the facilitators, right participants can be selected. The coordinator of the SL mentioned, 'By the social lab we took months to select participants. We had conversations

with all of them to make sure we are in line on each other's expectations. The selection builds the foundation of the lab.' The people who will not be selected must end up on a reserve list in case a participant drops out of the TL.

2. Role division

Another important criterion for organising a TL is that there should be a clear role division. Nevens et al. (2013) suggest that the organisers of the lab are the ultimate drivers for the process of the TL. Nevertheless, there should be made clear distinctions between the roles. According to the coordinator of the SL there should be someone responsible for monitoring, facilitating the lab, and someone who provides emotional support. 'It is important that emotional support is provided when organising a lab as the process of the lab could release feelings by the participants, especially if personal development is a theme within the transition lab.' Furthermore, the coordinator of the SL mentioned that if you would like for the participants to stay in contact with each other after the TL is finished, there should be a person who takes responsibility for this. If this responsibility is not taken by one person, it is unlikely that the participants of the TL stay in touch with each other and contact between the participants will be minimal.

Shanley et al. (2020), identified three different roles. First, a lab manager is necessary, who is in charge of the process of the lab, builds connections with other labs, monitors the whole process and makes sure that the activities are implemented appropriately. Second, a facilitator is required, who is responsible for leading discussions, introducing theories, setting agendas and motivating and supporting the participants. Third, there should be a researcher included within the lab. Even though there is no clarity yet on which the different roles should be, there is clarity that a clear role division is an important element when organising a TL.

3. Practical programme

A practical programme is a crucial element when organising a TL. The coordination of the SL stated the following: 'Theory we can all read in books. If there are long theory sessions, participants will quit.' This is also confirmed by Shanley et al. (2020) who added that interaction between experience and thinking helps people to get a better understanding of the world. The concept of a lab is that it should be a pragmatic programme. Bardecio (2022) also mentioned that during the lab, learning should be created by doing. It is important to include theories and models to get an understanding of a CE; however, social learning is also important, which means getting knowledge through generative experimentation and collaboration.

4. Real world setting

Furthermore, a lab should not stand apart from the real world. The coordinator of the SL did this by inviting people to the TL who are not participating. In this way, the lab stood in connection with the real world. This is also confirmed by Shanley et al. (2020) as they stated the following, 'A social lab is not an island. Nor is it a one-off experience. Social labs should be embedded in real world settings, bringing together societal actors who are affected by a social problem, in an ongoing and sustained effort' (Shanley et al. 2020: 27).

5. Monitoring

The data from the context level of Stufflebeam's evaluation framework stated that monitoring is crucial for a TL and this is confirmed by the in-depth interview and the three articles of the input level. According to the coordinator of the SL and Nevens et al. (2013) it is important that the monitoring of the TL should be a continuous process instead of a one-time event. Also, Bardecio (2022) stated that it is important that when monitoring the process, this should be done critically, and the lab should be adjusted accordingly.

PROCESSES TAKING PLACE AT THE TL ORGANISED BY CCW

Based on the third category of Stufflebeam's evaluation framework, process evaluation encompasses assessing and observing the TL based on the judgements of the participants and the observations (Al-Shanawani 2019). Out of the interviews and observations, four main themes were identified. In general, the respondents and observations were in line and no major differences were identified, except for one criterion, which is the structure of the programme. Here there were some differences identified between the opinions of entrepreneurs and inhabitants.

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1. Expectation management

As mentioned in the above section, Context level of TL organised by CCW, mistakes were made during the recruitment phase. This was also noticed by the participants. Four out of the six participants of the TL mentioned during the interview that they did not know what to expect of the TL when they signed themselves in. This happened on multiple elements, but the element that was mentioned by all the participants was that it was not communicated that personal development was part of the TL. This was even one of the main reasons that one participant dropped out of TL.

That personal development was not expected by participants was also observed during the TL, which is shown in the quote by participant 7: 'The TL is promoted that it is about circular economy, but it is also focusing on personal development. Not everyone signed up for this. I was surprised this got so much attention. Therefore, the communication needs to be better.'

Another important element that was observed during the TL sessions and mentioned in several interviews, is that the group of participants was never completed during the TL, which is shown in Table 2. The table shows that from the seven participants that started the TL, every lab session only four participants were present. It was observed that when participants cancelled the lab session, this often-happened last minute. Even though only one participant was present in all the sessions, five out of the seven participants find the cancellations have a negative effect on the TL. The following quote of participant two shows this: 'It sucks that the group is never complete.' Therefore, the participants mentioned it is important that the TL will be stricter in this, and mandatory participation should be included in the expectation management.

	LAB SESSION 2	LAB SESSION 3	LAB SESSION 4
Entrepreneur 1	+		+
Entrepreneur 2		+	
*Entrepreneur 3**	+		
Inhabitant 1		+	+
Inhabitant 2		+	
Civil servant 1	+	+	+
Civil servant 2	+		+

Table 2 Presence of participants TL (observation).

* Entrepreneur 3 quit the TL after lab session 2.

2. Selection procedure

According to the interviews, it is also important to improve the selection process of the TL, as this could prevent last-minute cancellations. Participant 1 who dropped out of the TL mentioned, 'A good selection would have been good for me. Then I could have considered earlier whether if I would participate and if I am the TL member they are looking for.'

According to all participants, the first criterion that should be taken into account during the selection process is to select a wide range of diverse participants. In addition, during all the six in-depth interviews, it was mentioned that participants of a TL should have certain skills. The top four criteria that were mentioned are: being able to pioneer, being flexible, being motivated, and having courage.

3. Collaboration

During the interviews with the participants, it was mentioned that collaboration is crucial during a TL. During the first two TLs, there were open discussions, the participants listened to each other, they exchanged general tips, there was networking and before the session and during the breaks, everyone was socialising. During the TL, short interviews were conducted, and the outcomes confirmed these observations. In three interviews, participants mentioned that the following criteria contributed to a successful collaboration: the participants are open to others, they are non-judgemental, and helping each other. However, at the third TL, the day ended with a conflict between two participants. Participant 5 stated the following, 'When I left the TL, I was not feeling well, because what happened there was not really nice.' Details of this conflict are beyond the scope of this research, but that a conflict occurred showed that there were some tensions between certain participants which also affected how participants experienced the TL.

During the in-depth interviews, four of the five participants mentioned that the collaboration within the lab sessions was, despite these tensions between certain participants, going well. However, outside the TL the participants did not have contact with each other. Participant 5 mentioned that phone numbers were exchanged late in the process, which in the beginning made it hard for participants to contact each other outside of the session. Another reason that is mentioned for the lack of contact outside the sessions, is that more trust should be created between participants.

4. Criteria facilitators

In all in-depth interviews it was mentioned that the collaboration between the participants and facilitators of the TL was good. This was also confirmed by the observations of the TL. According to the participants, the successfulness of this collaboration was because the facilitators could be trusted, gave individual guidance, were committed, and helped participants to stay committed during the process.

The facilitators of the lab were also good at transferring new knowledge to the participants. Although the participants had different entry levels regarding to how much knowledge they had about CE, all six participants mentioned that they were able to follow the sessions.

5. Set-up programme

In general, the theory and models of the TL were good, as it gave the participants the vocabulary to explain their circular idea. However, it is important to mention, that between participants, there are a few differences about which theory and models should be included in the TL. The majority of the participants found personal development an important element to include in the TL. However, the personal development was one of the main reasons why someone dropped out of the TL.

There are also different opinions toward the inclusion of certain theories. The entrepreneurs said that they find it important to include theory about circular business models as this will help to develop their ideas. However, the inhabitants of the municipality did not see the value of the business models for the development of their circular ideas. One of the inhabitants' goals of the TL is to find a business partner, who could take on the entrepreneurship of the idea.

Another important criterion, which is experienced as positive by the participants is that every session starts with a check-in and ends with check-out. During the in-depth interviews it was mentioned that participants valued that the day ended with an informal dinner. However, there was observed that in the end only two out of the four participants who were present at the lab session were at the dinner. So even though during the interviews it was mentioned that the informal activities are valuable, this was not observed during the TL. Furthermore, after the other lab sessions there was always a moment for informal drinks and for this event all the participants stayed, and the participants mentioned it is important to include this in the next TL as well.

DISCUSSION

Thirteen criteria derived from the data and are considered important when organising a TL to stimulate the transition towards a CE, which is shown in Figure 5. However, three criteria were mentioned in at least two out of the three categories of Stufflebeam's evaluation theory and should be prioritised when organising a TL.

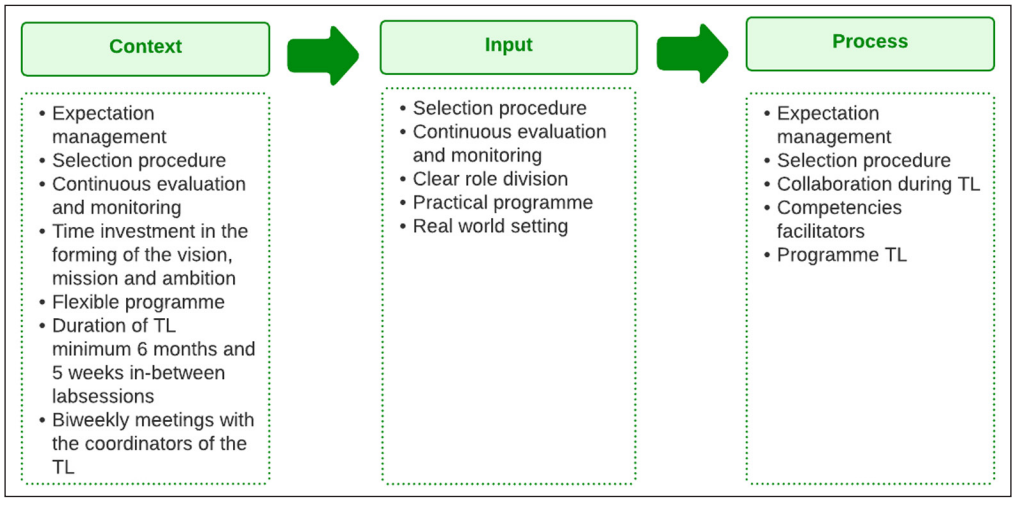

Figure 5 Criteria to organise a TL.

The first criterion that needs to be prioritised is monitoring and evaluation. Velenturf and Purnell (2021) mentioned monitoring is one of the nine principles that are important for generating the transition toward a CE. According to Velenturf & Purnell (2021), the strategies to move toward a CE needs regular evaluation because the implementation of a CE is a process that creates a high level of uncertainty. Consequently, TLs bring a high level of uncertainty and by continuously monitoring the programme, the TL could be adapted according to the changing circumstances and the participant's needs. Therefore, monitoring should be a continuous process during the execution of the TL. Monitoring should happen on three levels to create a full understanding of the TL which are: individual level, group level, and the created impact.

There was observed that during this TL, the coordinators played an active role in the monitoring process. Even though only one out of the three coordinators mentioned that monitoring should happen by an external person, this is still considered important as in this way the participants could stay anonymous which minimises their need for socially acceptable answers and therefore increases the objectivity of the evaluation. In addition, as an external person is not involved in the organisation of a TL, they could more objective as they do not have an interest in the outcomes of the monitoring and evaluation of the TL.

The second criterion which should be prioritised is expectation management. Four out of the six participants of the TL organised by CCW did not know what to expect of the TL when they signed themselves in. During this TL, the expectations were not clearly communicated to the participants, which had consequences for the entire TL. Expectation management should happen on two levels. First, the coordinators should communicate clearly the expectations they have of the participants, such as time investment and the commitment they enter. It is recommended to make the sessions of the TL obligatory and communicate this towards the participants. If a participant decides not to come to the lab sessions, it should have consequences for their participation in the TL. During the observations of the TL, there was observed that if the lab sessions are not obligatory, the participants do not make the TL a priority and easily cancel last minute. This has major consequences for the programme of the TL. The second level of expectation management is that there should be communicated what the participants could expect when they participate. In this way, participants can make a well-considered choice if they want to participate, which helps to select motivated participants. Therefore, there needs to be transparency of the main themes that will be addressed during the TL.

The last criterion that should be prioritised is the selection procedure, which is confirmed by Shanley et al. (2020). They stated that there is no social lab without participants and therefore including the right participant is a key part of a lab. For a TL to succeed, a committed, motivated, and diverse group of participants is needed. Zivkovic (2018) stated that a core characteristic of a lab is that it should bring a diverse group of stakeholders together. Including the right participants is important, as this will be the foundation of the TL. For this TL, the participants were selected based on the potential of their circular idea. While there are divided opinions if the participants should also be selected on competencies, it is recommended to include this criterion in the selection procedure. During the observations it became clear that the ability to pioneer, flexibility, motivation, positivity, and the ability to collaborate are competencies a participant should have in order to make the TL a success. Therefore, there should be looked for those competencies during the selection procedure. Especially the ability to collaborate should have the most weight, as this is one of the core criteria mentioned by Zivkovic (2018).

Some limitations were present within the theoretical framework and the research design, which could have influenced the outcomes of this research. Only three levels of the theoretical framework of Stufflebeam's evaluation theory are addressed in this research: context, input, and process. However, Stufflebeam's evaluation theory also includes a product level. This level could not be used during the evaluation of the TL because the TL was still being executed and the impact could not be measured yet, which could affect the results of this study. Therefore, it is recommended to still evaluate the product level of the TL organised by CCW to measure the overall impact of the TL.

A limitation of the research design is that participant observation was used as a research strategy, which has a high risk of bias entering the data. Furthermore, a non-concealed observation technique was used. This could have led to the observer effect, where the known presence of the researcher could have affected the behaviour of the participants and therefore the results of this research. Lastly, there was a last-minute change in the research design. There was planned to conduct interviews with coordinators of similar labs. Nevertheless,

due to several rejections of potential respondents, only one interview was conducted with a coordinator of a similar lab. Therefore, desk research was used to gather information.

During the execution of this TL, there has been observed that the opinions are divided about which theories should be included in the TL and especially about the topic personal development. The coordinators of the TL stated that personal development should be part of the programme. However, the opinion of the participants is divided, and it was even one of the main reasons that one participant dropped out of TL. This subject could be intimidating and scare away participants who have a circular idea with much potential. In addition, it is questionable if the personal development of the participants is necessary in order to develop a circular idea into a circular project initiative, which is the goal of the TL. Existing literature on this topic is limited and therefore it is recommended to conduct more research into which topics should be covered during a TL so that the circular ideas of the participants have the most potential to develop into a successful project initiative.

CONCLUSION

To move towards a CE, it is important to focus on the economic, environmental, and social dimension. However, the social dimension is often not included in the transition towards a CE. Producers as well as consumers (citizens) need to be involved but research on participation processes with the involvement of citizens is still rare. A CE must empower citizens to coproduce circular solutions inclusively and enable change in social values (Velenturf & Purnell 2021). TLs can stimulate the transition towards a CE by including the social dimension in the transition. Therefore, this research aimed to identify which criteria are needed for a successful implementation of a TL by evaluating the TL organised within the municipality of Westerveld to stimulate the transition towards a CE. Out of the data derived thirteen criteria which are considered important when organising a TL. The criteria that are mentioned by at least two out of the three categories of Stufflebeam's evaluation theory are considered as crucial criteria, which should be prioritised when organising a TL. These three criteria are: expectation management, selection process, and continuous monitoring.

ADDITIONAL FILE

The additional file for this article can be found as follows:

- **Appendices.** Appendix A to E. DOI: https://doi.org/10.5334/glo.58.s1

COMPETING INTERESTS

The author has no competing interests to declare.

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REFERENCES

Al-Shanawani, H. M. (2019). Evaluation of self-learning curriculum for kindergarten using Stufflebeam's CIPP model. *Sage Open*, *9*(1), 1–13. DOI: https://doi.org/10.1177/2158244018822380

Alhajia, I. M., Yewb, W. T., & **Abd Razakc, N.** (2020). Models of Program Evaluation for Teacher Education Training. *International Journal of Innovation, Creativity and Change*, *12*(8), 540–554. Retrieved from https://www.ijicc.net/images/vol12/iss8/12836_Alhaji_2020_E_R.pdf

Bardecio, G. (2022). *Transition lab*. SARAS institute. Retrieved from: https://saras-institute.org/t-lab-saras/

CCW. (n.d.). Collectief Circulair Westerveld: Wie zijn we en voor wie zijn we er? Retrieved from https://collectiefcirculairwesterveld.nl/over-ons/

Circle Economy. (2022). *The circularity gap report 2022*. Retrieved from https://www.circularity-gap.world/2022?gclid=CjwKCAiAx8KQBhAGEiwAD3EiPyNPThE-DLGoJdRK0obs3VMen_PyAgT9JGNfd_EwvszV6VhYhtn5OBoCAgkQAvD_BwE#Download-the-report

Frye, A. W., & **Hemmer, P. A.** (2012). Program evaluation models and related theories: AMEE guide no. 67. *Medical Teacher*, *34*(5), 288–299. DOI: https://doi.org/10.3109/0142159X.2012.668637

Hassan, Z. (2014). The social labs revolution: a new approach to solving our most complex challenges. Retrieved from https://ssir.org/books/excerpts/entry/the_social_labs_revolution_a_new_approach_to_solving_our_most_complex_chall

Holmén, J., Williams, S., & **Holmberg, J.** (2022). Comparing sustainability transition labs across process, effects and impacts: Insights from Canada and Sweden. *Energy Research & Social Science*, *89*, 1–13. DOI: https://doi.org/10.1016/j.erss.2022.102522

Jones, P., & **Comfort, D.** (2017). Towards the circular economy: A commentary on corporate approaches and challenges. *Journal of Public Affairs*, *17*, e1680. DOI: https://doi.org/10.1002/pa.1680

Kirchherr, J., Reike, D., & **Hekkert, M.** (2017). Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, conservation and recycling*, *127*, 221–232. DOI: https://doi.org/10.1016/j.resconrec.2017.09.005

Mies, A., & **Gold, S.** (2021). Mapping the social dimension of the circular economy. *Journal of Cleaner Production, 321,* 1–17. DOI: https://doi.org/10.1016/j.jclepro.2021.128960

Murray, A., Skene, K., & **Hynes, K.** (2015). The circular economy: an interdisciplinary exploration of the concept and application in a global context. *Journal of Business Ethics, 140*(3), 369–380. DOI: https://doi.org/10.1007/s10551-015-2693-2

Nevens, F., Frantzeskaki, N., Gorissen, L., & **Loorbach, D.** (2013). Urban transition labs: Co-creating transformative action for sustainable cities. *Journal of Cleaner Productions*, *50*, 111–122. DOI: https://doi.org/10.1016/j.jclepro.2012.12.001

NICE. (n.d.). Expeditie Circular Westerveld. Retrieved May, 2022, from https://www.wearenice.org/projecten/expeditie-circulair-westerveld/

Raworth, K. (2017). *Doughnut economics: Seven ways to think like a 21st-century economist*. Random House Business Books. Retrieved from: https://books.google.nl/books?hl=nl&lr=&id=7A4lDgAAQBAJ&oi=fnd&pg=PA1&dq=kate+raworth+doughnut+economics+&ots=wyDi7oJyt9&sig=R9sCi3Yy4BJ0G6xVIlrXgHPXdI4#v=onepage&q=kate%20raworth%20doughnut%20economics&f=false

Regio Zwolle. (n.d.). Regio Deal. Retrieved February 15, 2022, from https://regiozwolle.info/regiodeal/

Schot, J., & **Geels, F. W.** (2008). Strategic niche management and sustainable innovation journeys: theory, findings, research agenda, and policy. *Technology Analysis & Strategic Management*, *20*(5), 537–554. DOI: https://doi.org/10.1080/09537320802292651

Sengers, F., Wieczorek, A. J., & **Raven, R.** (2019). Experimenting for sustainability transitions: A systematic literature review. *Technological Forecasting and Social Change*, *145*, 153–164. DOI: https://doi.org/10.1016/j.techfore.2016.08.031

Shanley, D., Gianni, R., & **Meacham, D.** (2020). *Social lab: A shared participatory methodology for fieldwork*. Retrieved from https://participation-in.eu/media/participation-methodological-handbook-for-social-labs-d3.2.pdf

Sillanpää, M., & **Ncibi, C.** (2019). *The circular economy: Case studies about the transition from the linear economy*. Academic Press. https://books.google.nl/books?id=TxGnDwAAQBAJ&printsec=frontcover&hl=nl&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false. DOI: https://doi.org/10.1016/B978-0-12-815267-6.00002-5

Stahel, W. R. (2016). The circular economy. *Nature, 531*(7595), 435–438. Retrieved from https://doi.org/10.1038/531435supa. DOI: https://doi.org/10.1038/531435a

Stufflebeam, D. L. (2007). *CIPP evaluation model checklist*. Retrieved from www.wmich.edu/evalctr/checklists

Suparman, E., & **Sangadji, K.** (2019). Evaluation of learning programs with the CIPP Model in College: A Theoretical Review. *International Journal of Education, Information Technology, and Others*, *2*(1), 120–127. DOI: https://doi.org/10.5281/zenodo.3666969

Velenturf, A. P., & **Purnell, P.** (2021). Principles for a sustainable circular economy. *Sustainable Production and Consumption*, *27*, 1437–1457. DOI: https://doi.org/10.1016/j.spc.2021.02.018

Verhoeven, N. (2016). Doing Research: The hows and whys of applied research (4th edition). Amsterdam: Boom Lemma.

Von Wirth, T., Fuenfschilling, L., & **Coenen, L.** (2018). Impacts of urban living labs on sustainability transitions: Mechanisms and strategies for systematic change through experimentation. *European Planning Studies*, *27*(2) 229–257. DOI: https://doi.org/10.1080/09654313.2018.1504895

Witjes, S., & **Lozano, R.** (2016). Towards a more circular economy: Proposing a framework linking sustainable public procurement and sustainable business models. *Resources, Conservation and Recycling, 112*, 37–44. DOI: https://doi.org/10.1016/j.resconrec.2016.04.015

Zivkovic, S. (2018). Systemic innovation labs: A lab for wicked problems. *Social Enterprise Journal*, *14*(3), 348–366. DOI: https://doi.org/10.1108/SEJ-04-2018-0036

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